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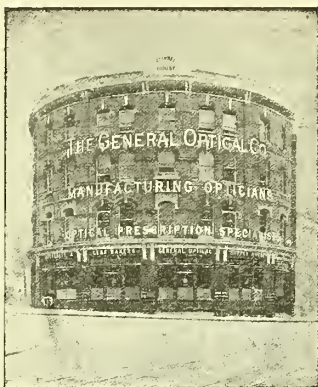
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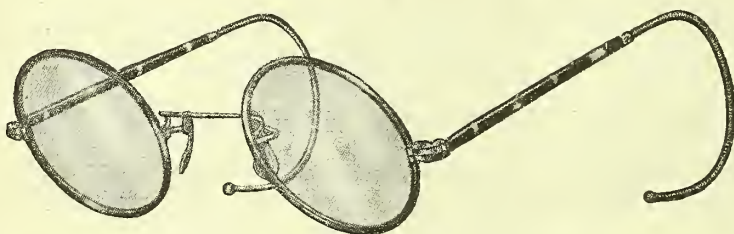
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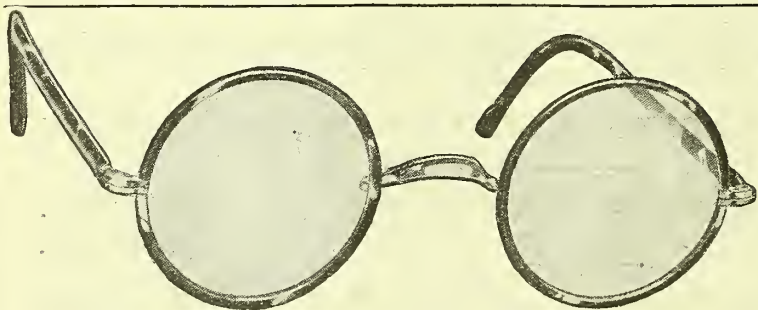
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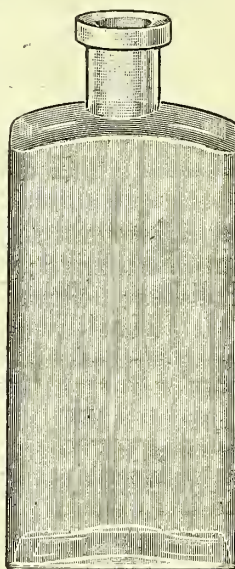
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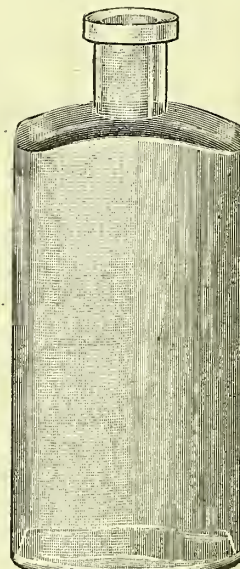
Beatson, Clark & Co.
LIMITED

Chemical & Medical Glass Manufacturers
ROTHERHAM, YORKS

*The Chemists who are doing
the business are the Chemists
who turn the work out well.*



Round Cornered Flat



Oval Fronted Flat

*There is no better help than
a smoothly finished, bright,
attractive bottle.*

TRY THE NO. 2 WHITE QUALITY
REASONABLE IN PRICE
SATISFACTORY in FINISH

Telegrams :
BEATSON, ROTHERHAM.

'Phone :
No. 88, ROTHERHAM.

ESTABLISHED 1751

Maw's Page



Symbols

"Meritor," "Parex," "Vel-fin," etc., are not merely the Trade names of certain products of the House of Maw, they are symbols also of co-operative effort on the part of the House and its customers to resist the effects of outside competition and to assist in safeguarding the future of pharmacy.

These names are applied only to goods of which two things may be said. Firstly, that they bear the name of "Maw" and are therefore supported by the reputation which that name has earned; secondly, they are supplied only to qualified pharmacists.

It is worth while considering exactly what this means. It means that when you sell goods bearing these names, quite apart from the question of immediate profit, you must inevitably create satisfied customers who, when they want goods bearing the same names, must come to you, for the simple reason that it is impossible to purchase the lines from any other retailer.

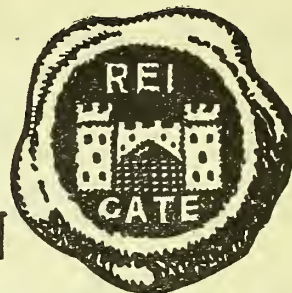
It is because these names have this symbolic significance, because they are emblems of a far-seeing policy, that they have achieved widespread popularity with the pharmacist and are indeed the distinguishing marks of those pharmacies where thought is given not only to the profits of the day, but also to the prosperity of to-morrow.

Sell consistently the branded products of the House of Maw.

S. Maw, Son & Sons, Ltd.,
Aldersgate St., London,
and Barnet.



OIL of LEMON
 SOLUBLE OIL of LEMON
 TERPENELESS OIL of LEMON
 SESQUITERPENELESS OIL of LEMON

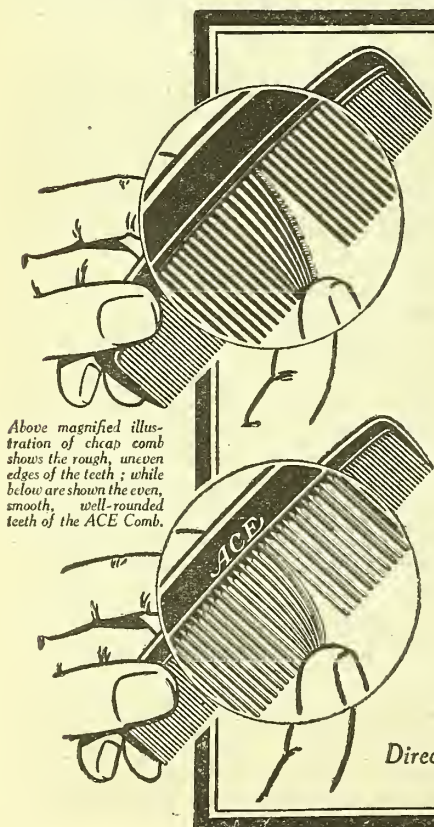


The high standard of QUALITY invariably maintained by each of these Lemon products is such as to ensure true ECONOMY in use—as well as the maximum of effectiveness for its individual purpose. Therefore, *if it's Lemon, ask*

White, Tomkins & Courage Ltd.
REIGATE, Surrey.

Telephone : Reigate 480

Telegrams : Esswhite, Reigate.



Above magnified illustration of cheap comb shows the rough, uneven edges of the teeth; while below are shown the even, smooth, well-rounded teeth of the ACE Comb.

Each Tooth tells its own story!—

EXAMINE the teeth of an ACE Comb. Compare them with those of the cheap, gaudy comb and you'll understand the reason why ACE Combs are so rapidly gaining in popularity. For the public are realising that the cheap comb, although it **looks** like an ACE, is vastly inferior. The teeth of the former are uneven, irregularly cut, have rough sharp edges. The teeth of an ACE Comb are even, smooth and rounded. Consequently the cheap comb maltreats the hair; an ACE Comb coaxes and rejuvenates it.

Tell your customers these facts—and you'll do a profitable business in ACE Combs.

Seven dozen ACE Combs in ingenious showcase, 45/6, less 5% cash discount. Order your case to-day.

—proving the superiority of

ACE 
COMBS

Direct from : AMERICAN HARD RUBBER (Britain) LTD.
 13a, Fore Street - - LONDON, E.C.2



GUARANTEED PURE ENGLISH PEPPERMINT OIL


Grown & Distilled from Mitcham Plants

By

Chivers & Sons Ltd.,
Histon, Cambridge, England.

SAMPLE AND QUOTATION ON REQUEST FROM THE SOLE SELLING AGENTS

BRUCE STARKE & CO., 16 WATER LANE, GREAT TOWER ST., LONDON, E.C.3



MOHAWK BRAND OIL PEPPERMINT

IT IS OUR AIM to keep MOHAWK BRAND in its present eminence as the highest standard of Peppermint Oil. Unsurpassed purity and delicacy of flavour.

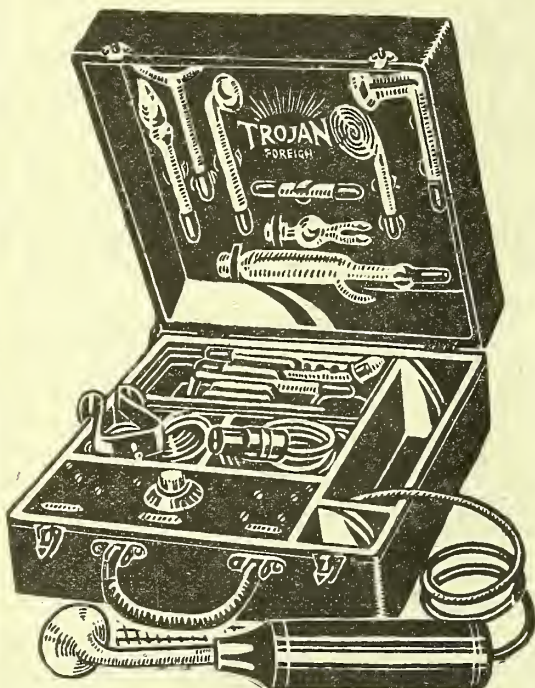
Single or Redistilled qualities in 28-lb. tins or 20-lb. tins. Smaller packages if desired.

For samples and quotations, spot or forward, please apply to sole agents for Great Britain and Ireland:

The Old Strand Chemical and Drug Co.
LIMITED
41 Great Tower St. (22 Beer Lane), London, E.C.3
Telephone : Royal 8737 (2 lines).

MAGNUS, MABEE & REYNARD, INC. NEW YORK U.S.A.

INCREASE YOUR SALES WITH THE TROJAN



H. F. Outfits

Trojan High Frequency Outfits are a profitable and fast selling line. They are absolutely dependable and can be easily and simply operated by an entirely inexperienced person.

If you are not already selling Trojan Outfits write us NOW for full particulars and our Scheme for selling 20 sets a week.

JOHN SHAW & SONS WOLVERHAMPTON LTD

(Established 1795)

Head Office and Works: WOLVERHAMPTON.
Telephone: Wolverhampton 1001.
Telegrams: "Shaw, Wolverhampton."

LONDON: 29-30 Shoe Lane, E.C.4. Telephone: Central 2163.

MANCHESTER: 5 Orme Buildings, Parsonage. Telephone: Blackfriars 1365.

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INSOLUBLE

TRANSPARENT PAPER

WHITE, COLOURED, EMBOSSED, PRINTED

*The Ideal Wrapping for Perfumery
Soaps, Toilet Goods, &c.*

EITHER COLOURLESS OR COLOURED TO HARMONISE
WITH GOODS. BAGS OF ALL SIZES AND SHAPES TO ORDER

Sole
Agents

Samples and Competitive Price from

W. S. MUIR & Co., Ltd.

83 Upper Thames St., London, E.C.4.

Phones: City 6164, 6165, 0667.



**2 minutes work
sells 1 cwt.
COUGH CANDY
over the week-end**

**4 $\frac{1}{2}$ ^D
per quarter
lb.**

Per lb. ... 11d.
28 lbs. ... per lb. 10d.
56 „ ... „ 9½d.
112 „ ... „ 9d.

**Free Candy Bags
with all supplies.**

THIS NEW DISPLAY. for AYRTON'S COUGH CANDY is *fiercely* attractive (as the illustration shows), yet it is delightfully easy to install.

Two minutes, and the trick is done—in any part of the window, or even in a corner. The cards, price disc and bottle are supplied free with 28 lbs.

The Candy **COSTS** you 9d. per lb. (in cwt. lots) and sells for 1/6 per lb. Plenty of Chemists sell upwards of 1 cwt. over a cold week-end.

DO YOU KNOW of any other quick sale article which turns in **100%** on cost?

Sample 4 lb. box will be sent post free to any Trading Chemist for 3s. 6d.



Stop your Cough
before it becomes
a Roar or a Growl!

AYRTON'S
Herbal
COUGH CANDY
Will relieve the
worst of Coughs

A Cough Candy
which is
different
from any
other, and
which you
can only
buy from
Your Chemist

The Lion's Share of Health!

AYRTON'S
Herbal
COUGH CANDY
is a valuable
Medicinal Sweetmeat

AYRTON'S LIVERPOOL ENG

AYRTON, SAUNDERS & CO. LTD.
Manufacturing Chemists LIVERPOOL, Eng.

AYRTON, SAUNDERS & CO. LTD.
Manufacturing Chemists LIVERPOOL, Eng.

LONDON DEPOT:
1 SWAN STREET,
MINORIES, E.1

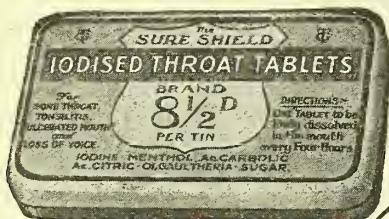
Telephone: ROYAL 8111.

THE SURE SHIELD



BRAND

IODISED THROAT TABLETS



8 1/2 d. Tins

5/6 per doz. 63/- per gross

1s. 3d. Tins

9/6 per doz.

108/- per gross

THOS. GUEST & CO., LTD., CARRUTHERS STREET,
 ANCOATS, MANCHESTER.

“ON TIME”

Perfect organisation in all departments enables us to estimate with exactness the day on which even the largest order can be dispatched.

The question of delivery is often of particular importance in the case of labels, and we assure manufacturers and retailers alike that—no matter how large or small their order may be, it will be dealt with promptly and efficiently by

ALF. HARRISON & SONS, LTD.
Chemist and Colour Printers, BURLEY RD., LEEDS.

LONDON OFFICE:

Sentinel House,
 Southampton Row,
 London, W.C.1

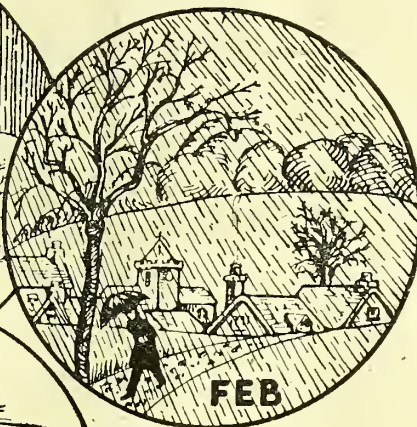
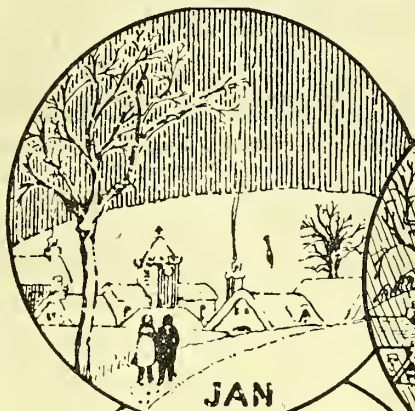
DUBLIN OFFICE:

1 Beresford Place,
 Dublin.

BELFAST OFFICE:

8 College Square, N.,
 Belfast.

COMPLETE SET OF SAMPLES SENT TO THE COLONIES ON RECEIPT OF P.O. 10/6, WHICH IS CREDITED ON A £5 ORDER.



3 months
13 weeks
77 week days—
and every day there
will be customers who
need "EMULSION" PASTILLES

The **THREE BEST MONTHS for "EMULSION" PASTILLES**

THREE months of snow, rain and wind when the public vitality is at its lowest and the public throat needs most protection. Three busy months for the Chemist are now at hand.

So **NOW** is the time for a display of "Emulsion" Throat Pastilles.

Good Pastilles well-displayed are irresistible during these wintry months. It pays the Chemist to make full use of the reputation for quality won by "Emulsion" Pastilles during many years of public trial.

To EXPORT BUYERS—All orders and enquiries should be addressed to our Sole Export Agent:
Wm. ALFRED JONES Ltd., West India House, Liverpool.

THOMAS KERFOOT & CO. LTD.
BARDSLEY VALE, LANCASHIRE,
& Bardsley House, London, N1
ESTABLISHED 1797.

C/859

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DEARBORN (1923) LTD.

37 Gray's Inn Road, London, W.C.1

Telephone: HOLBORN 9669

Toilet Specialties.

	Price per doz. to Retailer	Selling Price P.A.T.A.
PILENTA SOAP 10/-	1/-	
A complexion soap.		
PROLACTUM 10/-	1/-	
For the lips.		
PARSIDIUM JELLY .. 10/-	1/-	
For wrinkles.		
ALLACITE OF ORANGE BLOSSOM 22/6	2/6	
A dressing cream.		
BORANIUM 22/6	2/6	
A hair tonic.		
CLEMINITE 22/6	2/6	
For a facelotion.		
COLLIANDUM (Powder & Solide) 22/6	2/6	
For a face tint.		
PERGOL 22/6	2/6	
A deodorant.		
TEKKO PASTE 22/6	2/6	
Camphor cream.		
STALLAX { 13/6	1/6	
For a shampoo.		
JETTALINE { 22/6	2/6	
For clearing the skin.		
PHEMINOL 36/-	4/-	
A depilatory.		
MENNALINE 36/-	4/-	
For the eyelashes.		
MERCOLIZED WAX { 18/-	2/-	
A face cream.		
STYMOL { 31/6	3/6	
For oily complexions and blackheads.		
SILMERINE 36/-	4/-	
Hair-curling fluid.		
BARSYDE 22/6	2/6	
Dandruff eradicator.		
TAMMALITE 22/6	2/6	
For grey and faded hair.		
LIQUID PERGOL 31/6	3/6	
To check excessive perspiration locally.		
BICROLIUM 22/6	2/6	
For whitening the hands.		
COCONOIDS 31/6	3/6	
For figure development.		
SIPOLITE 18/-	2/-	
A new depilatory.		

The Products of

Messrs. PARKER, BELMONT & CO.

CLYNOL BERRIES .. 36/-	4/-
For obesity.	
SOFT PALERIUM .. 45/-	5/-
For wrinkles.	
LIQUID NAIL POLISH .. 10/-	1/-
Brilliant and lasting.	

Stocked by ALL Wholesale Houses.

FOREIGN AND COLONIAL DEPÔTS AND AGENCIES.

South Africa: LENNON, LTD., Cape Town, etc.
SIVE BROS., & KARNOVSKY, LTD., Johannesburg.
India: FRAMJEE & SON, Bombay.
A. L. CHOUDRY, Calcutta.
New Zealand: HARLAND & CO., Auckland and Wellington.
Irish Free State: MAY, ROBERTS & CO., LTD., Dublin.



A
**KEEN
BLADE
AT A
KEEN
PRICE**

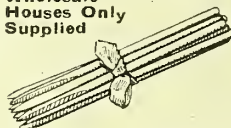
The Blade that SELLS as it SHAVES—
"LIKE GREASED LIGHTNING!"

Obtainable from all Leading Wholesalers.

Dept. C.D. "Wanie" Distributors:
c/o ROEBUCK'S ADVERTISING SERVICE
Salisbury Square House, Salisbury Sq., Fleet St., London, E.C.4

BRITISH GOODS that meet foreign competition

Wholesale
Houses Only
Supplied



Manicure Requirements

CARDED AND
BOXED

Please Note
New Phone No.:—
Archway 2144

It will pay you to ask
us for our prices

ROBERT LEE, 14 Calverley Grove, N.19.

Tried & Proved

Rowland's Macassar Oil is no new preparation; it has been used all over the world for more than 136 years and everywhere it is held in the highest esteem. It is guaranteed to

P.A.T.A.

3/6, 7/-

& 10/6

Red for
dark hair;
golden for
fair or
grey hair.

From all
Wholesalers

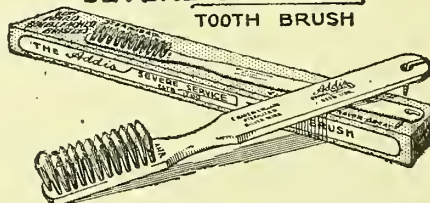


**Rowland's
Macassar Oil**

A. ROWLAND & SONS, Ltd., 112 Guilford St., London, W.C.1
EM4T

PRICE
2/6

Addis
SEVERE SERVICE
TOOTH BRUSH



ADDIS BRUSH WORKS
Hertford, England.

ESTABLISHED 1780

A new H. B. T. Product.

H. B. T. FLU PILLS

This tried and proven remedy you can recommend with every confidence to your clients. It has never been known to fail.

This excellent remedy is only now being placed on the market, although it has been used with unfailing success in a busy Dispensary for many years. During the devastating Flu epidemics of the War Years, these pills worked wonders, and in not one case were they known to fail. They cover all the usual Influenza symptoms—the fever—the “all-sore” condition—the usual Head and Back painfulness—the Cough, and even Pleurisy yields to their wonderful healing powers, while many cases of Rheumatism—even Rheumatic Fever—Lumbago, Pneumonia, etc., are greatly helped by them.

H.B.T. FLU PILLS contain no Poisons—no Strychnine—no Quinine—no Aspirin. They are absolutely safe, sure and pleasant to take. They are made up in $\frac{1}{2}$ -oz. Green Squat Bottles and packed in attractive Green Display Cardboard Boxes of 12. They retail as a stamped medicine at 2s. 6d. Trade terms, 33 $\frac{1}{3}$ per cent. net.

The people need these H.B.T. FLU PILLS, and will soon demand them. You should stock them without delay so that they will not be disappointed.

Each bottle contains sufficient FLU PILLS for 10 or 12 cases, so that it is a wonderfully economical remedy.

One Box of 12 will be sent you post free for 20s. —

To inaugurate the entry of H.B.T. FLU PILLS on the market, we will give a bonus of 6 Bottles with every CASH ORDER for 2 dozen sent direct to us, and 12 bottles with every CASH ORDER for 4 dozen.

Send £2 and you will receive 30 bottles—value £3 15s.

Send £4 and you will receive 60 bottles—value £7 10s.

This offer is for ONE MONTH ONLY.

Send your order now. Orders will be executed in rotation.

HUNTER BEATTIE, 25 Monteith Row, Glasgow, S.E.

We shall be glad if you will see that your stock of **H. B. T. ASEPTIC TOILET and SHAVING SOAPS is KEPT UP**

We are having complaints from all over the country that customers are calling on Chemists for these Soaps and are informed that they are not in stock. Will you kindly help us to meet this demand? Any wholesale House can supply these soaps on shortest notice. Why not get in, without delay, a sufficient stock to give a display? These soaps will give entire satisfaction and your profits are 50 per cent. on your outlay. We will gladly send to any Chemist a supply of Showcards and Illustrated Circulars which will materially aid in making known the unequalled excellence of these Aseptic Soaps.

H.B.T. ASEPTIC TOILET SOAP .. 9d. ; 6s. per doz.

“ “ “ “ “ “ 3 Tablet Boxes, 2s. 3d. ; 18s. per doz.

“ “ “ “ “ “ SHAVING “ “ 1s. ; 8s. per doz. net.

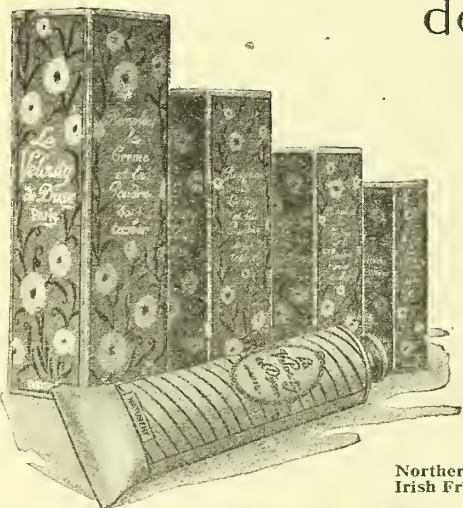
Stocks are held by Messrs. Sangers, Ltd., Newberys, May, Roberts & Co., Butler & Crispe, Evans Sons Lescher & Webb, Ltd., James Taylor, Ltd., T. & H. Smith, Ltd., Cockburn & Co., Ltd., Duncan, Flockhart & Co., Ltd.

HUNTER BEATTIE, 25 Monteith Row, Glasgow, S.E.

the original combined Cream and Powder

la **VELOUTY**

de **DIXOR** Paris



The advertised line that you are asked for.

NOW ON P.A.T.A.

Samples free upon receipt of trade card or billhead.

PRICES:—Full size pot -	21/- doz.	RETAIL 2/9
Super tube -	22/- "	3/-
Large tube -	14/- "	2/-
Medium tube -	7/- "	1/-
Handbag tube -	3/- "	6d.

Made in four shades:

WHITE, IVORY, NATURAL and OCHRE.

Obtainable from your regular Wholesaler or direct from the Sole British Agents:

DEBACQ & HARROP,

68 Newman Street, Oxford Street, London, W.1.

Sole Distributors for

Northern Ireland: ROBERT MAYRS & CO., 43 Chichester Street, BELFAST
Irish Free State: MAY ROBERTS & CO. LTD., Grand Canal Quay, DUBLIN

Nuctone

*Order through your usual
wholesaler, or from*

J. C. GAMBLES & CO. LTD.
211 BLACKFRIARS ROAD,
LONDON, E.C.1

FOR GREY HAIR —

NUCTONE ECLAIRE, ECLAIRE CONCENTRE
NUCTONE AND NUCTONE CONCENTRE

Manufactured by

STEWART, GOODALL
& DUNLOP, LIMITED,
4 DERING STREET,
LONDON, W.1

TATCHO

THE
HAIR RESTORER

Sample Size 6^d

6 Bottles in Case for
Counter Display,
4/- PER DOZ.

PROMOTES, PRODUCES,
BEAUTIFIES THE HAIR

1/3 size .. 12/6 per doz.
2/9 size .. 26/- per doz

TATCHO Laboratories, 5 Great Queen Street, London, W.C.2

HAVE YOU PLACED YOUR ORDER FOR MASQUE ROUGE

The Perfume that has thrilled all Paris.

PARFUMS MARCEL GUERLAIN, Ltd., 8a Lord St., LIVERPOOL.

Sunshine Remedies

INCLUDING THE NOW FAMOUS

ANTI-ACID TABLETS, "TOXINICON" for Rheumatic diseases
GOLDEN-RAY SHAVING SOAP The only Soap with antiseptic Vaseline
centre
SOLEIL D'OR PERFUME & TOILET PREPARATIONS

London Chemists are invited to send their "Sun Ray"
patients to our private rooms. Trained Staff in attendance
ASK FOR DETAILS.

Write for Descriptive Catalogue,
Sunshine Remedies, Ltd.
8 West Halkin Street, S.W.1
Telephone: Sloan 4133.

An Introduction -

SEIBERLING Druggists' Rubber Goods have dominated the Canadian market for the past 14 years.

SEIBERLING Hot Water Bottles are universally sold in Canadian Drug Stores because of the satisfactory service they have given to the Canadian Buying Public.

SEIBERLING OFFERS

*Unsurpassed quality.
Attractive designs and colors.
Faultless Construction.*

This superior line of Druggists' Rubber Sundries is now being offered to British Chemists.

EMPIRE MADE

Seiberling Tyre Co. (Great Britain) Limited

146-7-8 Tennant Street

Birmingham



No. 70

A MOULDED HOT WATER BOTTLE - - -

That
has proven the
superiority of
SEAMLESS
CONSTRUCTION



No. 60

Years of experience have proven beyond the question of a doubt that a Water Bottle, PROPERLY made of a single piece of high quality rubber, without seams, will give infinitely better service than one made of several pieces stuck and cemented together.

The old, patched, hand-made Bottle is fast disappearing from the market because the moulded, one-piece style has given vastly superior service.



No. 91

SEIBERLING HOT WATER BOTTLES

*are made without
Seams, Bindings
or Cement.*

A Seiberling representative will call upon you in the near future. You will be interested in seeing his samples.



No. 330

SEIBERLING TYRE CO. (Great Britain) LIMITED
146-7-8 TENNANT ST.
BIRMINGHAM

"Harlene" LIMITED

REVISED TRADE PRICE LIST

JAN. 1st 1930

SIZE	PREPARATION	PRICES:	
		RETAIL	TRADE Per Doz. Nett
No. 1	"Harlene" for the Hair	1/1½	s. d. 10 0
No. 2	" " " "	2/9	24 0
No. 3	" " " "	4/9	40 0
No. 1	" Liquid Shampoo	1/3	10 8
No. 1	" Scalp Ointment	1/3	10 8
No. 1	" " Unstamped (export)	—	8 5
No. 1	" Hair Fixative	1/3	10 8
No. 1	" Wave Setting Lotion	1/3	10 8
	" Home-Hair-Wavers	2/6	21 4
	" Home-Hair-Curlers	2/6	21 4
	" Solidified	2/9	24 0
	" Combination Parcels	7/6	68 0
No. 1	" Astol " Hair-Colour Restorer	3/-	26 5
No. 2	" " " "	5/-	42 5
	" Complete " Parcels	9/-	84 0
Boxes of 7	" Cremex " Wet Shampoo Powders	1/6	12 8
Boxes of 7	" " Dry Shampoo Powders	1/6	12 8
	" " Single Powders	3d.	—
No. 1	" Uzon " Brilliantine	1/1½	10 0
No. 2	" " " "	2/9	24 0
No. 1	" Junofloris " Skin and Complexion Cream	1/3	10 8
No. 1	" " Vanishing Cream	1/3	10 8
No. 1	" " Spring Breath Tablets	7½d.	5 4
No. 2	" " " "	1/1½	9 7
No. 3	" " " "	3/-	25 7
No. 1	" " " " Dentifrice	7½d.	5 4
No. 2	" " " "	1/1½	9 7
Boxes of 3	" Astine " Toilet Soap	2/6	21 4
	" " Shaving Sticks	1/1½	10 0
No. 1	" Excelsior " Hair Dyes	3/6	23 2
No. 2	" " " "	5/6	38 5
No. 3	" " " "	8/6	61 2
	" Astinol " Fluid Extract	3/-	27 0
	" " Unstamped (export only)	—	24 0



"HARLENE"
For The Hair



"CREMEX"
Shampoo Powder



"UZON"
Brilliantine

TERMS TRADE PRICES NETT

Minimum direct orders £2.

Carriage Paid on Parcels of £2, cash-with-order. £5 where charged to account.

Cases charged and credited when returned carriage paid.

Dummies and any available show material will be included where possible, with goods, when desired.

A Big Advertising Campaign in The National Press is always in operation on behalf of "HARLENE" Preparations, and it behoves YOU to keep a Regular Stock of these Popular Lines to meet the continuous and Regular Demand.

EDWARDS HARLENE LTD.

20, 22, 24 and 26 LAMB'S CONDUIT STREET, LONDON, W.C.1

THE ONLY RUBBER SPONGE

WHICH WILL GIVE
FULL SATISFACTION



IT NEVER CRUMBLES

AND

Provides the luxury of a sponge which is really hygienic, soft, free from grit, and durable.

Also

SORBELLE

SORBELLE is the newer Sorbo range of Sponges, having all the Sorbo consistency and softness, but is offered at prices to meet foreign competition. Sorbelle, although offered at low prices, is nevertheless a GENUINE SORBO PRODUCT.

Sorbo
TRADE MARK

Sole
Manufacturers:

SORBO RUBBER-SPONGE PRODUCTS LTD.
SORBO WORKS, WOKING, SURREY.

Phone: Woking 966.

Grams: "SORBO, Woking."

**Every dog-owner
will wish
to read
this
leaflet**



DOG owners who read these leaflets become regular and intelligent users of dog medicines. Mr. G. Booker, M.P.S., of Doncaster, wrote: "We are pleased to say that the counter slips are responsible for a **LARGE INCREASE** in our Bob Martin SALES."

ON receipt of a postcard we will be pleased to send you a Display Container holding 150 leaflets, together with a small window bill or any other display material (showcards or display screens) which you would like to have.

BOB MARTIN, LTD.,

Dog Medicine Manufacturers since 1892,
Southport, Lancs.

The sales of Bob Martin's Tasteless Condition Powders are twice as great as the sales of any other dog medicine.

SPECIAL NOTICE

TO STOCKISTS OF

SWAN DOWN

FACE POWDER

Commencing January 1, 1930

ORDERS FOR

SWANDOWN POWDER

SWANDOWN VANISHING CREAM

SWANDOWN COLD CREAM

AND OTHER

SWANDOWN LINES

*Can be obtained from the Manufacturers and
Sole Distributors for Great Britain & Ireland*

HENRY TETLOW COMPANY

84 Leadenhall St., LONDON, E.C.3

OR USUAL WHOLESALERS

The London Office carries AMPLE
STOCKS and invites inquiries.

YE OLDE POTTE POURRI

No. 10
21/- doz.

No. 11
15/- doz.

No. 12
24/- doz.

No. 13
21/6 doz.

In
single
outers.



No. 14
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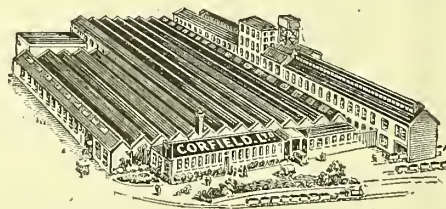
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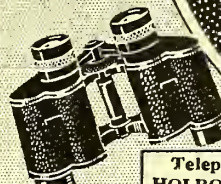

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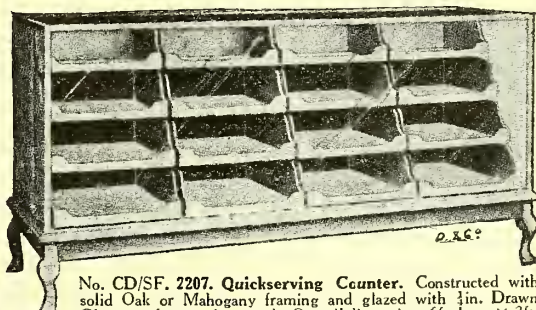
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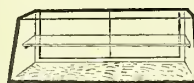
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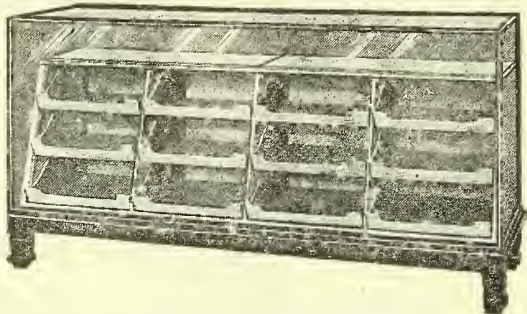
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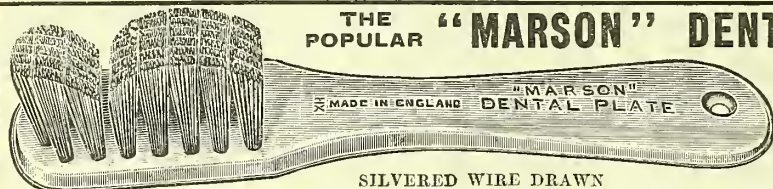
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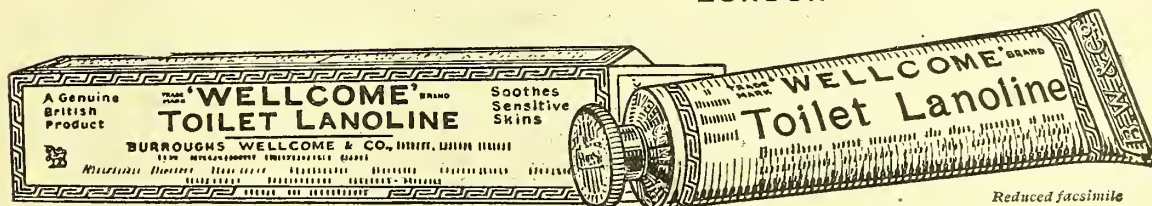
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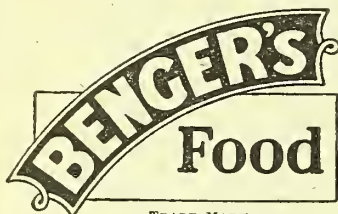
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Melbourne and Sydney, Australia

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Business Changes

MR. P. W. RIDYARD, chemist and druggist, will shortly open a pharmacy at 84 Bury Old Road, Kirkhams, Prestwich.

MR. WILLIAM FRASER, chemist and druggist, has acquired the pharmacy of Mr. John A. Shedden, Gilmour Street, Eaglesham.

SCOTT BADER & Co., LTD., chemical merchants, are removing from 2-4 Broad Street Place, E.C.2, to 109 Kingsway, London, W.C.2.

MR. A. I. JONES, chemist and druggist, has acquired new premises at 218 High Road, Burnt Oak, where he intends to specialise in optical work

BATZOUROFF & Co. will be the new style and title of the firm of otto of rose distillers, previously known as J. Batzouroff et Fils, 15 rue Karnigradska, Sofia.

English and Welsh News

The Editor will be obliged if subscribers will send him marked copies of newspapers containing items of interest for insertion in this or other news sections.

Key Industries Application

A representation has been made to the Board of Trade under Section 10 (5) of the Finance Act, 1926, regarding zirconium oxide. Any communication should be addressed to the Principal Assistant Secretary, Industries and Manufactures Department, Board of Trade, Great George Street, London, S.W.1, within one month from December 23.

British Disinfectant Manufacturers' Association

The inaugural meeting of a new British Disinfectant Manufacturers' Association was held on December 16 at the rooms of the Chemical Society, Burlington House, London, W.1. Nearly fifty firms representative of all the branches of the disinfectant trade signified their intention of joining the new Association. Rules were discussed and adopted. Mr. N. F. Kingzett (The "Sanitas" Co., Ltd.) was elected chairman, Mr. W. H. Hively (Taylor's Automatic Disinfectors, Ltd.) vice-chairman, and Mr. R. A. Blair (Burt, Boulton & Haywood, Ltd.) treasurer. The Association will be affiliated to the Association of British Chemical Manufacturers, 166 Piccadilly, W.1, which will provide secretarial and other services. Any disinfectant manufacturer, whether individual, firm or company, operating within the Empire will be eligible for membership; the annual subscription is £2 2s.

Birmingham

Mr. and Mrs. Barrow Cadbury are leaving for a prolonged holiday, during which they intend to visit Australia.

Mr. Herbert Linell (Linells, Ltd., chemists, Balsall Heath) has been appointed sub-postmaster of the Balsall Heath Road post office.

At a meeting of the Birmingham and Midland Scientific Society held recently, Dr. S. R. Carter (Birmingham University) lectured on "Colloids."

At a meeting of the Birmingham and Midland section of the Society of Chemical Industry held recently, Mr. H. M. Stanley, M.Sc., read a paper on "Petroleum and Petroleum Gases as Chemical Raw Materials." The annual meeting of the parent Society is to be held in Birmingham next year.

Manchester

Members and friends of the Manchester Pharmaceutical Association are asked to remember the annual whist drive and dance on January 8, 1930.

"Have you seen this week's C. & D.?" "What a grand number!" "And the *Diary*!" are expressions which have passed between Manchester subscribers during the past week-end.

On December 18 an excellent photograph of Mr. G. S. Woolley and his bride appeared in a local paper. Numerous congratulations have been received by the bride and bridegroom.

Councillor R. G. Edwards, Fallowfield, who recently disposed of his retail business, has been appointed deputy chairman of the Public Health Committee of the Manchester City Corporation.

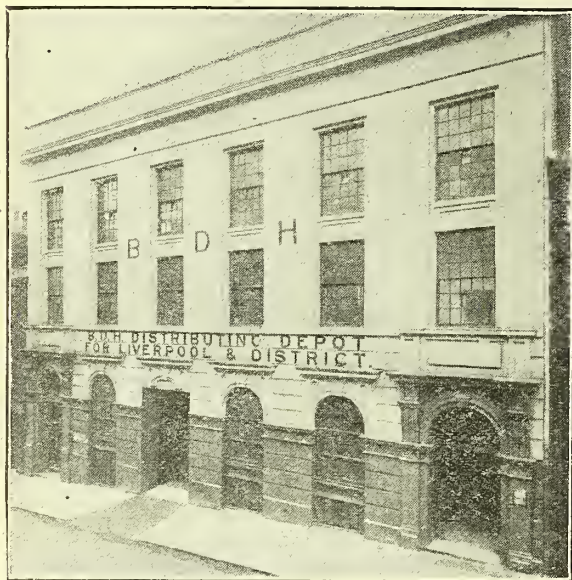
The Christmas windows of retail chemists in Manchester and Salford, although, perhaps, not up to the particular standard attained by the large stores, are attractively dressed, and satisfactory results are being achieved. The general tone of business has been considerably better since the cold snap began.

Liverpool

Liverpool chemists' windows are attractively decorated for the festive season.

By inserting a "something to his advantage" advertisement a Liverpool chemist was successful in tracing a customer who had obtained goods on credit, giving a false address.

The new distributing depôt established in Liverpool by The British Drug Houses, Ltd., is remarkably well adapted for the purpose. The century-old well-built premises in Lord Nelson Street constitute a distinct "find" for the B.D.H. For the past five years J. H. & S. Johnson, Ltd., have acted as the company's agents. This arrangement terminates by mutual consent at the end of the year, and the work of distribution for the area will then be carried on from the new depôt.



The premises consist of a basement, ground floor and two upper stories. The first and second floors are used for the receipt and dispatch of goods, and the upper floor for stock. The system of dealing with orders accurately and expeditiously is as perfect as foresight can make it. A new feature is the introduction of pressed metal racks instead of the customary wooden shelves. The advent of the new B.D.H. depôt will be greatly appreciated in Liverpool and the district.

Miscellaneous

MEXBOROUGH CHAMBER OF TRADE is organising an Empire shopping week to commence on February 28, 1930.

RAW OPIUM PROSECUTIONS.—At Thames Police Court, London, on December 12, L. Kum, a Chinese fireman, was sentenced to two months' hard labour for being in unauthorised possession of 4 lb. 12 oz. of raw opium.—At Birkenhead Police Court, on December 13, F. C. Chong was fined £10, with 21s. costs, on a similar charge in respect of 2½ oz. of raw opium.

WINTER PHOTOGRAPHY.—A lecture entitled "If Winter Comes" was given by Mr. C. S. Clarke, secretary of the Kodak Fellowship, at Plaistow, London, E., on December 6, under the auspices of the West Ham and District Branch of the Photographic Dealers' Association. Mr. W. Thompson (chairman), presiding. Mr. Clarke's lecture was illustrated by lantern slides showing examples of what can be accomplished with a camera both indoors and outdoors in winter time. The secretary, the lecturer and the lanternist were accorded a vote of thanks.

IN THE COURTS.—At Berkshire Quarter Sessions, on December 20, the sentence of twelve months' imprisonment in the second division passed on Richard William Starkie, on conviction under the Dangerous Drugs Acts (*C. & D.*, December 7, p. 678), was reduced to one of five months' imprisonment in the second division. Mr. Thomas, who appeared for the appellant, remarked that the police court advocate told the magistrates that he was instructed to say that the Home Office regarded the case as a serious one. Mr. Thomas suggested that these instructions should never have been given, and the chairman added that the circumstances should not have been mentioned.

Scottish News

Brevities

Mr. John Lochran, chemist and druggist, Lawnmarket, Edinburgh, is training for the ministry of the United Church of Scotland.

E. Griffiths Hughes, Ltd., Manchester, intimate that after December 31 Wm. Hill & Co., Glasgow, will no longer represent them in Scotland, owing to change in service organisation.

Practically all the Scottish wholesale houses intimate that their premises will be closed on December 25 and on January 1 and 2, 1930. It is hoped that Christmas will eventually become a recognised holiday amongst chemists and druggists throughout Scotland, where in certain districts it has been observed for many years.

The *C. & D. Diary*, or "The Chemists' Friend," as it might aptly be called, has just arrived, and, as usual, is crammed full of extremely useful information. It is difficult to discriminate which is the most useful section; it is all so good, and appeals alike to manufacturers, wholesalers, and retailers at home and abroad. In these days of excessive legislation it is well for pharmacy to have such a comprehensive and trustworthy guide.

Dental Tribunals Appointed

THE Home Secretary gives notice that, in pursuance of the Dangerous Drugs (Consolidation) Regulations, 1928, he has appointed two Dental Tribunals—one for England and Wales and one for Scotland—to which as occasion arises may be referred for examination and consideration any case in which there is, in his opinion, reason to think that a dentist may be administering any of the drugs to which the Regulations apply either to himself or to any other person otherwise than as required for purposes of dental treatment. The appointment is an extension to dentists of the system already adopted with regard to medical practitioners on the recommendation of the Departmental Committee on Morphine and Heroin Addiction. The members are:—

England and Wales.—Mr. W. H. Dolamore, L.D.S., M.R.C.S. (chairman), Mr. E. C. Sprawson, L.D.S., M.R.C.S., L.R.C.P., and Mr. N. G. Bennett, L.D.S., B.Ch., M.B., or Mr. F. Butterfield, with Mr. E. Percival Clarke, K.C., as legal assessor.

Scotland.—Mr. W. Guy, F.R.C.S., L.D.S. (chairman), Mr. J. H. Gibbs, L.D.S., F.R.C.S. (Edin.), L.R.F.P.S., and Mr. W. Graham Campbell, L.D.S. (Edin.), M.B., C.M., or Mr. G. Hogg Patterson, with Mr. John Cowan, K.C., as legal assessor.

Irish News

Belfast

Mr. Noel J. Patterson, who won the Lockhart medal in the Upper Sullivan School, Holywood, co. Down, is an apprentice in the pharmacy of Grattan & Co., Ltd., Belfast.

Members of the Chemical Society of Ulster recently paid a visit to the works of Alexander Finlay, Ltd., soap manufacturers, Belfast. Each process was explained to the visitors in detail.

At the opening meeting of the Belfast Division of the British Medical Association, the chairman (Dr. S. E. A. Acheson, a member of the Council of the Pharmaceutical Society of Northern Ireland) took as the subject of his address "A Chat on Drugs."

Conferences between the Ministry of Labour in Northern Ireland and the Committee of the Northern Irish Pharmacists' Association regarding the introduction of medical benefit to Northern Ireland have not yet been completed. A meeting of the dispensary doctors of the counties of Antrim and Down and the city of Belfast was held in the medical institute last week to consider the tentative proposals that have been made. No statement was issued.

Pharmaceutical Society of Northern Ireland

Council Meeting

THE monthly meeting of the Council of the Pharmaceutical Society of Northern Ireland was held on December 20, the president (Mr. Fred Storey) in the chair. There were present also Messrs. S. S. Badger (vice-president), J. E. Connor, H. Todd, J. F. Grimes, S. Gibson, Andrew Wilson, Professor Small and Dr. Acheson. Mr. D. L. Kirkpatrick (secretary) was in attendance. Apologies for absence were read from Sir Thomas McMullan, Messrs. A. C. McBride, W. S. Taylor, H. Lancashire, R. I. Edwards and W. Martin.

DEATH

The PRESIDENT said that before beginning the business it was only right he should refer to the death of Mr. Ferrall. Those of them who had been members of the Council in Dublin came in touch with him a great deal. He had been registrar of the Society for about forty years, and he was always a very courteous and kindly gentleman. He was one of the old landmarks, one of the links with the past, that, unfortunately, were being snapped. He moved that a resolution of sympathy be sent to the family.

Mr. CONNOR, in seconding, said Mr. Ferrall was one of nature's gentlemen. His loss would be mourned by the Society in Dublin, and they would all feel that in him the craft had lost an earnest and devoted member.

Mr. WILSON also joined in the tribute to Mr. Ferrall's memory, stating that his efficiency was most remarkable.

Mr. GIBSON, as the oldest member of the old Council present, said he always looked on Mr. Ferrall as a friend. He always took an interest in the North.

Mr. DUNDEE supported the resolution, which was passed by a standing vote.

CORRESPONDENCE

Christmas greetings were received from the Pharmacy Board of Tasmania.

Mr. R. H. Kerr, London, wrote that as a result of the reciprocal agreement with the Pharmaceutical Society of Great Britain he had been admitted to the English Register. He was among the first Northern chemists to be recognised on that side of the Channel. He would like to tender his thanks to the president and Council.

The North Irish Pharmacists' Association forwarded a resolution on the subject of the sale of agricultural and horticultural poisons.

The PRESIDENT said they had approached the Home Office on this question several times lately and were awaiting a reply from the Minister to receive a deputation.

Mr. BADGER said the Council had done all it possibly could.

Mr. DUNDEE said the resolution was meant to strengthen the hands of the Council.

Mr. CONNOR said that in the country their business was being filched from them; sheep dip and other things were also being hawked through the country.

Mr. GIBSON said the resolution should have been sent to the Home Office by the N.I.P.A. The Council was doing all it could in the matter and would continue to do so. The resolution was rather derogatory to the Council.

The PRESIDENT: There is no doubt about that.

Mr. CONNOR said it was only through the Council that action could be taken, and the N.I.P.A. had asked them to take action.

The PRESIDENT: What more can we do? We have asked the Home Office to receive an urgent deputation.

Mr. TODD said the resolution was quite in order. The N.I.P.A. was not finding fault with the Council.

The PRESIDENT said that the Home Office on one occasion ordered the cancelling of thirty licences, but the holders then went to the local authority and got the licences reissued. That practice had been stopped, as the Home Office had now decided that a licence could not in those circumstances be reissued without special permission from the Home Office. The licences were waiting to be cancelled, but the

Minister had not yet done so, and they wanted to find out from him at the interview what the position exactly was.

Mr. BADGER said this objection was only to the issue of licences where there were chemists available to sell these poisons.

EDUCATION COMMITTEE

The Education Committee recommended that all candidates at examinations produce their laboratory notes if called upon, and that the examinations on all parts of the Second Schedule be held in the second week in June 1930. They recommended also that the following be given certificates for apprenticeship:—Bernard John McEldowney, John Henry Harbison, William Elliott Thornton, William Taylor, Nial Brannigan, and Charles O'Kane. The report was adopted.

The report of the Board of Examiners and the Special Board of Examiners on the December examinations were read.

Mr. WILSON said that in Dublin they got the marks of the candidates.

The SECRETARY said they were available and could be seen by any member. The reports were adopted.

MEMBERS ELECTED

The following nominated candidates were elected members of the Society:—William Clements, 106 York Street, Belfast; Charles McKeown, 81 North Circular Road, Dublin; G. Thompson Wilson, 4 Clarendon Avenue, Heaton Moor, Stockport; Robert Harding Peake, Spring Street, Reservoir, N.19, Melbourne, Victoria, Australia; Thomas Henry Hartwell Bennett, Summerhill House, Queenstown; James Johnston, 32 Palm Road, Romford, Essex; Samuel Hogg, 110 Shankill Road, Belfast.

The PRESIDENT wished the members a merry Christmas and a happy New Year.

Confiserie

By John D. Marshall

THE incidence of the "Gifts Season," and the fact that chemists nowadays sell all sorts of things, including fruit pastilles and confections of various kinds, makes one wonder why not add those delightful fruits preserved in sugar, a product of Provence. Perhaps it is that many chemists do not realise the enormous quantities made and sold in France. I have had the opportunity, through the courtesy of the owner, of going over the factory of M. Maiffret, who commenced in Grasse and Cannes nearly fifty years ago, gradually extending, until to-day he has, probably, the largest business of its kind. The procedure is really simple. Imagine a large factory with many stoves, large quantities of drying trays, hundreds of earthenware crocks; large copper pans and enormous silver-plated spoons, perforated and having long handles. The first operation is, of course, examining the fruit for blemishes, those not in perfect condition being discarded; then such things as pears are cleverly pared, the core being extracted with an ingenious instrument. Long silver-plated prickers next transfix the fruit at various points, leaving small holes to ensure sweetening equally. This process is applied to practically all kinds. The fruit is then put into copper pans, and placed over a brisk fire, after being covered with syrup made of pure white sugar and distilled water. The heat is gradually raised until the syrup boils; then after a certain time of carefully and constantly moving the fruit, the contents of the pans are lifted out with silver spoons, and placed in earthen crocks and allowed to stand for some time. The boiling process is repeated, in some cases as many as five times; at the conclusion the fruit is drained on large perforated trays. By a secret process M. Maiffret has discovered how to keep the taste and aroma of fresh fruit: Jaffa oranges are especially luscious, and I wish my friends could try them. The arrangement in the well-known shallow boxes is, of course, done by girls who have the innate good taste of French people. Violets, roses and many other flowers are similarly treated.

New Companies and Company News

P.C. means Private Company and R.O. Registered Office.

ALLIED SILICA & CHEMICAL PRODUCTS, LTD. (P.C.).—Registered in Edinburgh. Capital £2,500. Objects: To acquire any lands, mines, mining, oil, water, timber and silica rights or silica products, or any other mineral or other by-products, etc. The first directors are: G. E. Baker and A. Vincent. R.O.: 9 York Place, Edinburgh.

IPSWICH LABORATORIES, LTD. (P.C.).—Capital £1,000. Objects: To carry on the business of importers, exporters and manufacturers of and dealers in chemical, industrial preparations, etc. The subscribers are:—T. Briggs and Rose Roth. Solicitors: Kenneth Brown, Baker, Baker, Essex House, Essex Street, W.C.2.

ORR, CHEMISTS, LTD. (P.C.).—Registered in Belfast on December 13. Capital £500. Objects: To acquire the business of a registered druggist carried on by W. R. H. Orr at 165 Ormeau Road, Belfast, as "Orr's Drug Stores." The directors are: W. R. H. Orr, Mrs. Ann L. Orr, and Victoria M. Orr, Ph.C. R.O.: 165 Ormeau Road, Belfast.

M.R. CHEMICAL PRODUCTS, LTD. (P.C.).—Capital £8,000. Objects: To carry on the business of importers, exporters and manufacturers of and dealers in chemicals, heavy and fine chemical compounds and other products. The permanent managing directors are: A. V. Moss (chairman) and S. Roos. R.O.: 22 Basinghall Street, E.C.2.

TROWBRIDGE REFINING CO., LTD. (P.C.).—Capital £1,000. Objects: To carry on the business of melters, refiners, manufacturers, exporters and importers of and dealers in tallow, fat, dripping, lard, compound, oil, glycerin, vaseline, wax and grease, etc. The directors are: F. Budham, R. H. Glaser and C. Wipfler. Secretary: Miss C. H. Calloway.

CASTELNAU ESTATE PHARMACY, LTD. (P.C.).—Capital £500. Objects: To carry on the business of chemists, druggists, pharmacists, drysalter, oil and colour men, etc. The directors are: Mrs. R. Cohen, Grosvenor House, 139 Castelnau, Barnes, S.W.13; Edith Glenister, 135 Nowell Road, Barnes, S.W.13, nurse; and Ethel Glenister, 135 Nowell Road, Barnes, S.W.13, nurse. R.O.: 135B Nowell Road, Castelnau Estate, Barnes, S.W.13.

STERNOL, LTD.—A second interim dividend at the rate of 8 per cent. per annum has been declared in respect of the half-year ending December 31 on the 8 per cent. cumulative participating preferred ordinary shares.

GRAESSER-MONSANTO CHEMICAL WORKS, LTD.—An agreement to acquire the Wear Tar Works, Sunderland, from Brotherton & Co. by Graesser-Monsanto Chemical Works, Ltd., is a further stride in the policy of expansion foreshadowed by Mr. J. F. Quecny, chairman of the Board, some twelve months ago. These works have a distilling capacity of 60,000 tons of tar yearly, and its acquisition will materially add to the number of products sold by the company, the list of which now aggregates about two hundred.

COLOUR SNAPSHOTS (1928), LTD.—The statutory first meetings of the creditors and shareholders were held on December 19 at the London Bankruptcy Court under the liquidation of Colour Snapshots (1928), Ltd., which was formed in 1928 with a capital of £350,000. The development and administrative expenses were £60,849, and the net loss is estimated at £55,183. The liabilities are returned at £224,400 against assets amounting to £24,559, apart from the patent rights held by the company and valued at £86,760. With a view to reconstruction a liquidator was nominated.

TAYLORS (CASH CHEMISTS), LONDON, LTD.—At a meeting held at the Hotel Cecil, on December 19, the chairman, Mr. Philip E. Hill, announced that the directors intended to offer for subscription early in the New Year a further 25,000 Seven and a-Half per Cent. cumulative preferred ordinary shares at par and 250,000 deferred ordinary shares at par. On this issue being made Taylors (Cash Chemists) Trust, in part exercise of the option, will subscribe for a further 250,000 deferred

ordinary shares at par. The shareholders will have the first opportunity of subscribing for the issue, although the offer will be made to the whole of the shareholders of the chemists' businesses with which Mr. Hill is connected.

Private Arrangements

William John Hunter, Bedminster Down, Bristol, chemist and druggist. The creditors interested herein were called together on November 22 at the offices of E. T. Collins & Son, C.A., 28 Baldwin Street, Bristol. Mr. Arthur Collins reported that the liabilities were £420 6s. 11d., of which £300 6s. 11d. was due to the trade, and £120 to cash creditors. The assets comprised stock, £14 2s. 7d.; book debts, £14 11s. 4d.; and fixtures, fittings, etc., £37 15s.; making a total of £66 8s. 11d. After allowing £2 2s. 11d. for preferential claims, the net assets were £64 6s. It was reported that the debtor started in business on his own account in 1926, and prior to that date he was a relieving man for a firm of chemists. The debtor attributed his position to the fact that the profits had been insufficient to cover his drawings, which were estimated at £4 a week. No offer was submitted, and it was decided that the debtor should be requested to execute a letter of authority to Mr. Collins, under which the assets should be realised and distributed amongst the creditors. The following are creditors:—Dalmás, A. de St., & Co., Ltd., £12; Evans, Gadd & Co., Ltd., £142.

Wills

MR. JOSEPH HITCHEN, of 259 Nottingham Road, Ilkington, Derby, chemist and druggist, who died on July 19 last, aged thirty-seven years, left estate of the gross value of £1,472 8s. 9d., with net personality £1,275 8s. 10d.

MR. CHARLES DANN, Ph.C., of 341 Crookesmoore Road, Sheffield, manager of the drug department of a local co-operative society, who died on August 15 last, left £965 17s. 5d., with net personality £877 2s. 11d.

MR. ROBERT IRONSIDE DUNN, of 128 St. John's Road, Gillingham, Kent, chemist and druggist, who died on November 16 last, aged 34 years, left estate of the gross value of £826 5s. 5d., with net personality £803 16s. 1d.

MR. JAMES HAROLD STANCLIFFE, of 20 The Green, Idle, Bradford, chemist and druggist, who died on October 16 last, aged 32 years, left estate of the gross value of £6,243 3s. 6d., with net personality £4,667 10s. 1d.

MR. CHARLES REED, of Priors Field Cottage, Malt-house Lane, Kenilworth, Warwick, director of Osborne, Garrett & Co., Ltd., who died on October 17 last, aged 70 years, left estate of the gross value of £1,997 4s., with net personality £535 1s. 3d.

MR. WILLIAM DIXON, of Went Farm, Speldhurst, Kent, retired chemist and druggist, who died on October 12 last, aged eighty-nine, left estate of the gross value of £597 5s. 10d., with net personality £532. Probate of the will has been granted to Thomas Lucas Smith, of 2 Elliott Road, Brixton, S.W.

MR. FRANK HUDSON, of 39 Eldon Terrace, Wakefield, chemist and druggist, who died on November 2 last, aged 80 years, left estate of the gross value of £931 8s. 11d., with net personality £1 14s. 3d. Probate of the will has been granted to his son George Hudson and Mrs. Hilda Hudson, of the same address.

MR. THOMAS FORRESTER, of 69 Avenue Gardens, Acton, W., chemist and druggist, who died on November 2, left estate of the gross value of £1,263 15s. 5d., with net personality £130 15s. 11d. Probate of his will has been granted to his widow Mrs. Grace Courtney Forrester, of the same address, the sole executrix.

Gazette

Partnership Dissolved

Laurie, J. A., and Bunting, H. F., 76 High Street, Ashford, Kent, chemists, under the style of F. W. Stedman.

Festivities

Messrs. Hough, Hoseason & Co.'s Dinner

THE thirtieth annual dinner of Hough, Hoseason & Co., Ltd., Manchester, was held at Parker's Restaurant on December 16. There was a large gathering, including representatives from their works, offices, and outside staff, who spent a very pleasant evening. Dinner was followed by whist, in which everyone took part. The prizewinners were:—*Ladies*, first, Mrs. Grimshaw; second, Mrs. Freeston. *Gentlemen*, first, Mr. Cody; second, Mr. Barlow.

Cardiff Chemists' Whist Drive

AN enjoyable function organised by Mrs. J. D. Jenkins and assisted by members of the Ladies' Committee of the British Pharmaceutical Conference was held on December 18. Various prizes were presented, amongst which may be mentioned an inlaid oak box, by Mr. J. D. Jenkins, of his own construction. A brace of pheasants given by Mr. A. S. Johnson, and a Christmas pudding by Mrs. Lee Jones, were won respectively by Mr. E. Poole and Miss Jones. The following were the whist drive winners: *Ladies*, Mrs. A. Gordon, Mrs. Rogers; *Gentlemen*, Mr. D. Brims, Mr. Newall; and Mrs. W. S. Hague and Mr. Crabtree, booby prizes. An amusing interlude was provided by Mr. D. R. Cule.

Blandfield Golf Club Dinner

THE Blandfield Golf Club (T. & H. Smith, Ltd., Edinburgh) held its annual dinner in the Haymarket Rooms, Edinburgh, on December 13, the president (Mr. G. F. Anderson) presiding over a large turn-out of members and friends. After the loyal toast had been honoured, Mr. G. A. Findlay (North British Rubber Co., Ltd.) proposed the toast of the "Blandfield Club," and in doing so pointed out the importance of firms encouraging their employees to take part in some form of sport. Mr. R. W. Pringle replied on behalf of the Club. During the proceedings the chairman presented the prizes won during the season and complimented the winners on their success. The toasts of "Our Guests," "The Artists," and "The Chairman" were proposed by Mr. G. Fraser Anderson, Mr. R. Cameron (Cowan & Co.), and Mr. D. S. Philp respectively, and were acknowledged by Mr. Robert Graham (T. & H. Smith, Ltd., Glasgow), Mr. T. H. Mair and the chairman. Mr. T. Bayne made a humorous speech and congratulated the club on their enterprise.

Southport Association—Ladies' Evening

THE annual ladies' evening of the Southport Pharmacists' Association and branch of the Pharmaceutical Society took place on December 10, when the gathering was honoured with the presence of the Mayor and Mayoress (Alderman A. and Miss Tomlinson), Mr. H. Humphreys Jones, F.I.C., principal of the Liverpool College of Pharmacy, Mrs. Jones, Councillor and Mrs. J. G. Wilkinson, Dr. and Mrs. Maglione. Mr. T. R. Newton (president) was in the chair, and others present were Mrs. Newton, Mr. and Mrs. R. Stirling Macdonald, Mr. and Mrs. W. H. Smith, Mr. and Mrs. A. H. Messenger, Mr. and Mrs. Sawyer, Mr. and Mrs. J. W. Gee, Mr. and Mrs. Rothwell, Mr. and Mrs. Pickering, Mr. and Mrs. J. G. Andrews, Mr. and Mrs. Meachim, and several representatives of wholesale houses. The secretary (Mr. H. Orr) was unavoidably absent owing to the illness of his wife, and there were expressions of sympathy with both Mr. and Mrs. Orr. The loyal toast was honoured on the motion of the chairman, who, later, proposed the toast of the "Mayor and the County Borough of Southport." The Mayor, in reply, said as far as he personally was concerned he ought to have a very healthy year of office, especially in view of the fact he had already been toasted by the doctors, and now he was toasted by the chemists. Mr. Macdonald proposed the toast of the "Pharmaceutical Society," to which Mr. H. Humphreys Jones replied. Dancing took place until 1 a.m., with carnival effects introduced. Spot dance prizes were given, the winners being Mrs. Maglione and Mrs. Pickering. A special prize was won by Mrs. Sawyer.

Settling in Business

By Fifty Odd

VI.—To the Seller

IN this, the final, article of the series, it is desired to put before any prospective vendor of a business something of the purchaser's point of view. The seller does not always look at his own proposition from the opposite side, and therefore, perhaps, he is not always as clear in his statement of the particulars relating to the business or as helpful to the buyer who has to come to a decision in the matter as he himself would wish to be. There are always two parties to a bargain, and it is only to be expected that the views of these parties upon the commodity to be sold will vary considerably. Even in Scriptural times the purchaser was wont to depreciate the goods before clinching the bargain: "It is naught, it is naught," saith the buyer. When it comes to the sale of a modern business it is desirable that the vendor should state quite clearly the whole facts concerning the case, so that the prospective purchaser may judge the value of the business on its merits. Yet in many instances this is not done.

At one time the writer entered into negotiations with a chemist for the purchase of his business, and at the first interview the vendor produced his cash books for inspection, showing in detail the number of customers served and the amount of cash taken for every day during the previous ten years. Nothing could have been more straightforward. Then, when he was asked for a record of his cash payments and business expenses, he brought out of a cupboard under the counter a long thick string on which had been threaded every invoice and receipt for the same period. This file was quite thirty inches high from the ground—a solid pillar of papers which had been placed on it, without any attempt at order or arrangement, just as they came to hand. This was the only record he had of his business expenses; and any purchaser of the business was expected to go through this file and extract whatever evidence he required to confirm the statements of the vendor. His income-tax returns had been prepared by a friend, who had secured whatever basis he required for his calculations from the bank pass book by the simple process of subtracting debits from credits and calling the total net profit. Yet the vendor freely admitted that many payments for goods had been made in cash from the till, and that regular weekly drawings also took place to meet his household expenses.

The vendor's relation to the property should be clearly understood. He may be the freeholder or the leaseholder, or may only rent under an agreement. In buying a business we are primarily concerned with business expenses only; but in many cases other items will be found to have been included or not properly charged, so that it is necessary for a purchaser to know just what the business ought to be charged with before the amount representing net profit is arrived at. The writer has found a widower charging a housekeeper's wages as a business expense. In another case it had to be pointed out to a retiring freeholder, who wished to retain possession of the premises as an investment while disposing of the business, that an appropriate sum must be charged against the business as rent before ascertaining the net profit. If one is selling, therefore, the buyer should be given clearly to understand what he will have to pay out of his gross takings for goods, rent, rates, lighting and heating, assistance and all other legitimate expenses. If he is granted a new lease, or succeeds to an existing lease, he should understand what he is to do in the way of repairs, whether all or part, and what portions are chargeable to the house and to the shop. A vendor cannot hope to impress an intending purchaser with his estimate of the value of a business unless sufficient figures are shown to substantiate his claim.

If this is done it gives any buyer a chance of estimating what the value of this particular business will be to himself when he becomes the owner, for he may decide to run the business on lines quite different from those adopted by his predecessor, owing to a different set of circumstances operating in his case.

The Progress of Pharmacy

AND ALLIED SCIENCES

PHARMACY

Average Strength of Strophanthus Tincture and Strophanthin.—J. H. Burn and K. S. Grewal find ("Quarterly Journal of Pharmacy and Pharmacology," 2, 3, 404) that B.P. tinctures of strophanthus may be expected to be, on the average, equivalent to a 0.42-per-cent. solution of ouabain, and not to deviate from this value by more than 25 per cent. Commercial samples of strophanthin may be expected to have about 60 per cent. of the activity of the international standard ouabain, with a deviation not exceeding 25 per cent. Of twenty-two tinctures examined, five were too weak; and of nine samples of strophanthin one was below the limit laid down.

Swiss Formulas.—Formulas for the following preparations have been included in the supplement to the Swiss Federal drug tariff, issued on October 1, 1929:—

PULVIS STRAMONII COMPOSITUS.—Asthma Powder:—

Belladonna leaves	...	...	2 gm.
Stramonium leaves	...	...	4 gm.
Lobelia	...	...	2 gm.
Potassium nitrate	...	...	2 gm.
Water	...	...	5 gm.

Mix the drugs, all in fine powder, and moisten the mixture uniformly with the solution of potassium nitrate in water, then dry at a temperature not exceeding 40° C.

SAL ARTEFICIALE FACHINGEN.—Artificial Fachingen Salt:—

Lithium carbonate	...	...	0.2 gm.
Potassium chloride	...	...	1 gm.
Magnesium sulphate, exsiccated	...	...	1 gm.
Sodium chloride	...	...	15 gm.
Sodium bicarbonate, to	...	...	100 gm.

SAL ARTEFICIALE MARIENBAD.—Artificial Marienbad Salt:—

Potassium sulphate	...	...	0.5 gm.
Sodium chloride	...	...	20 gm.
Sodium carbonate, exsiccated	...	...	25 gm.
Sodium sulphate, exsiccated, to	...	...	100 gm.

SAL ARTEFICIALE NEUENABR.—Artificial Neuenahr Salt:—

Sodium sulphate, exsiccated	...	...	10 gm.
Sodium chloride	...	...	30 gm.
Sodium bicarbonate, to	...	...	100 gm.

SAL ARTEFICIALE WIESBADEN.—Artificial Wiesbaden Salt:—

Sodium bromide	...	...	0.06 gm.
Potassium chloride	...	...	2 gm.
Sodium bicarbonate	...	...	6 gm.
Sodium chloride, to	...	...	100 gm.

In each case the mixture of salts should be dried at a temperature not exceeding 30° C.

SYRUPUS KREOSOTI LACTICI COMPOSITUS.—Compound Syrup of Creosote Lactate:—

Calcium lactate	...	...	10 gm.
Monobasic calcium phosphate	...	...	10 gm.
Distilled water	...	...	200 gm.
Creosote	...	...	2 gm.
Codeine phosphate	...	...	2 gm.
Tincture of aconite root	...	...	10 gm.
Tincture of lemon	...	...	10 gm.
Simple syrup	...	...	760 gm.

Dissolve the calcium lactate in 100 gm. of distilled water by the aid of a gentle heat, and when cold add a

solution of the monobasic calcium phosphate in 100 gm. of distilled water prepared without the aid of heat. Set aside for twelve hours, filter and add to the filtrate 760 gm. of simple syrup, followed by the addition of the codeine phosphate and creosote dissolved in the tincture of aconite, and finally the tincture of lemon. To prepare the tincture of lemon equal parts (by weight) of finely cut fresh lemon peel and alcohol (90 per cent.) are macerated for twenty-four hours, pressed, set aside in a cool place for eight days, and filtered.

SYRUPUS THYMI COMPOSITUS.—Compound Syrup of Thyme:—

Liquid extract of thyme	...	...	150 gm.
Thymol	...	...	0.1 gm.
Alcohol (90 per cent.)	...	...	40 gm.
Distilled water	...	...	30 gm.
Sodium bromide	...	...	30 gm.
Simple syrup	...	...	750 gm.

Pill Varnish.—The following solution for varnishing pills is recommended by R. Heimann ("Archiv für Pharmaci og Chemi," December 1, 1929):—

Sumatra benzoin	...	...	7.5 gm.
Shellac	...	...	7.5 gm.
Vanillin	...	...	0.2 gm.
Alcohol (90 p.c.)	...	...	85 gm.

Paraffin Emulsion.—R. Heimann ("Archiv für Pharmaci og Chemi," December 1, 1929) gives the following formula for paraffin emulsion, as prepared in the St. Vibenshus Apotek:—

Arachis oil	...	...	60 gm.
Oleic acid	...	...	30 gm.
Solution of ammonia	...	...	30 gm.
Distilled water	...	...	400 gm.
Liquid paraffin	...	...	9490 gm.
Solution of saccharin (15 p.c.)	...	...	120 drops
Spirit of peppermint (1-7)	...	...	100 gm.
Alcohol (90 p.c.)	...	...	100 gm.
Distilled water	...	...	375 gm.

Mix the arachis oil and oleic acid, add the solution of ammonia and 400 gm. of distilled water. Then add the liquid paraffin in small portions to this mixture with constant trituration to produce an emulsion. The solution of saccharin, distilled water (375 gm.), spirit of peppermint and alcohol are then added to the emulsion in the order given and the whole vigorously shaken. When the addition of phenolphthalein is prescribed the latter should be previously dissolved in a few c.c. of alcohol to which one or two drops of dilute hydrochloric acid have been added, in order to prevent the occurrence of a pink coloration of the emulsion, which exhibits a faintly alkaline reaction.

Stability of Extracts of Ergot.—F. Wokes ("Quarterly Journal of Pharmacy and Pharmacology," II, 3, 384) has tested several samples of solid and liquid extract of ergot with a view to ascertaining their ergotoxine content after the lapse of several weeks or months. Liquid extracts of ergot rapidly lose their activity on keeping. This loss of activity takes place in extracts made either with a strongly ionised mineral acid (hydrochloric) or with a weakly ionised organic acid (tartaric), with a menstruum containing from 35 to 75 per cent. of alcohol. The rate of deterioration is influenced by the temperature at which the liquid extract is stored, being about twice as rapid at room temperature as in the ice chest, and

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still more rapid in the incubator at 37° C. Even under the best conditions, however, half the activity is lost in from two to three months. Concentrated (soft) extracts of ergot are rather more stable. When stored in the ice chest they may retain half their activity for from four to nine months.—J. H. Burn and F. Wokes presented a monograph at a meeting of the Royal Society of Medicine (Section of Therapeutics—"Lancet," 5542, 1040) on the standardisation and keeping properties of ergot preparations. It was not easy to decide on a suitable standard for ergot. The method used with digitalis and strophanthin, that of mixing the various samples of the drug and using a preparation made from them when its activity had been ascertained, as the standard, was not altogether suitable here. The samples of ergot obtained from Spain and Portugal were much richer in ergotoxine than those obtained from Poland and Russia, nor did the quality of the samples necessarily remain constant for any given place. Burn and his colleagues, in attempting to establish their standard, had at first excluded Polish and Dutch ergot from their experiments and had taken the mean obtained by use of Spanish ergot. This had worked out at 0.1 per cent., which was found to be too high a standard to be followed by pharmacists, and they had subsequently reduced it to 0.05 per cent.

PHARMACEUTICAL CHEMISTRY

Arsenious Iodide and its Solutions.—T. T. Cocking discusses ("Quarterly Journal of Pharmacy and Pharmacology," II, 3, 409) the preparation of solutions of arsenious iodide, and gives tabulated results of experiments to show the rate of oxidation of Donovan's solution. The hydrolysis of arsenious iodide in a freshly made dilute solution into arsenious and hydriodic acids is almost complete. The instruction contained in the U.S.P., under "Liquor Arsenii et Hydrargyri Iodidi," to preserve that solution in well-filled amber bottles is of the greatest importance. Donovan's solution contains a complex hydrogen mercuric iodide together with free arsenious and hydriodic acids. A sample of the solution, after being kept fourteen months, with only occasional removing of the cork, was found to contain no arsenious iodide calculated as AsI_3 . Donovan's solution should therefore be freshly made or stored in small bottles completely filled.

ANALYTICAL CHEMISTRY

Standard for Saffron.—E. H. Wirth ("American Journal of Pharmacy," October 1929) discusses the quality of saffron together with the effect of light and age upon the drug. A colorimetric method for the estimation of the quality of saffron is described and discussed. This method, in short, consists of macerating 0.1 gm. of powdered saffron in 100 c.c. of water at room temperature, with frequent shaking for three hours, filtering, diluting ten times with water and comparing this dilution (1 in 10,000 of saffron) with an aqueous solution of potassium dichromate of definite concentration in a colorimeter. A one-hundredth normal solution of potassium dichromate is suggested as a standard, although a slightly higher one might be shown to be preferable by subsequent investigation.

Guaiacol Carbonate Estimation.—L. H. Chernoff ("Journal of the American Chemical Society," 51, 10, 3072) suggests that the conversion of guaiacol into a bromine derivative insoluble in 50 per cent. methyl alcohol is a more specific assay of guaiacol carbonate than by ether solubility or saponification. Assay is made by adding 10-20 c.c. of methyl alcohol to 0.1-0.5 gm. of guaiacol carbonate contained in a 100 c.c. Erlenmeyer flask and heating on a steam bath until dissolved. While hot 1 c.c. of bromine is added, and the mixture is then allowed to stand for ten minutes, with occasional shaking to promote crystallisation. An equal volume of water is added. After standing for another ten minutes, filter on to a Gooch crucible and weigh after drying for an hour at 100° C. Multiply by 0.6343 to obtain the weight of guaiacol carbonate. The guaiacol derivative corresponds to monobromguaiacol carbonate and melts at 178° C.

Microchemical Test for Alkaloids.—Rosenthaler ("American Journal of Pharmacy," October 1929) suggests that the identification of alkaloids by conversion into microcrystalline compounds is well suited to replace tests by well-known colour reactions, although as yet the latter cannot be entirely dispensed with. For this purpose he has employed Reinecke's salt, which can be prepared by fusion from ammonium thiocyanate and potassium and ammonium bichromate. The cold saturated solution was used as reagent. The reaction is carried out in the following manner (with the exception of piperin): A little of the alkaloid or its salt is placed on the glass slide of the microscope with a drop of the reagent. The crystal precipitations are described for arecoline hydrobromide, atropine sulphate, herberine sulphate, quinine hydrochloride, coniine hydrobromide, hydrastinine hydrochloride, morphine hydrochloride, narceine, pilocarpine hydrochloride, piperin (dissolved in hydrochloric acid), strychnine hydrochloride, stovaine, tutocaine, novocaine hydrochloride, alypin hydrochloride, cocaine hydrochloride, tropacocaine hydrochloride.

Estimation of Citric Acid in Calcium Citrate.—The volumetric determination of citric acid in calcium citrate proposed by Professor G. Romeo ("Rivista Italiana delle Essenze e Profumi," July 1929) is carried out as follows: 2 gm. of calcium citrate is introduced into a tared 200-c.c. flask; 50 c.c. of 6 per cent. potassium carbonate solution is added and the liquid boiled for half an hour, cooled, and made up to 201 c.c. The solution is filtered through a dry filter. 20 c.c. of filtrate is taken, treated with 1.5 c.c. of a solution of acetic acid (20 per cent. by volume) and boiled for five minutes, cooled, neutralised with $N/2$ potash solution, using 1 per cent. phenolphthalein as indicator. The colour is then discharged by adding a few drops of 3 per cent. solution of acetic acid. 25 c.c. $N/10$ solution of silver nitrate is added, and finally 80 c.c. of 96 per cent. alcohol. The solution is allowed to stand ten minutes, filtered, and the precipitate washed with 50 c.c. of 80 per cent. alcohol and the washings added to the previous filtrate. The excess of silver nitrate added is determined by means of $N/10$ solution of sodium sulphocyanide, and from the difference between the number of c.c. of silver nitrate and sodium sulphocyanide solutions used the percentage of citric acid is calculated.

Identification of Rhamnose in Scammonin.—A new study of scammonin is outlined by E. Votocek and F. Valentin in "Collection des Travaux Chimiques de Tchecoslovaquie" (November 1929, 608), and details of experiments are given. Commercial scammonin, dissolved in 96 per cent. alcohol, was shaken at ordinary temperature with baryta water until a persistent alkaline reaction was maintained. After dilution with water the liquid was neutralised by introduction of carbon dioxide and subsequently filtered. The barium was precipitated by 10 per cent. sulphuric acid and the weak excess of sulphuric acid eliminated by treatment with lead carbonate. The lead was separated by hydrogen sulphide and the filtrate evaporated to the consistence of a thick syrup. The product was then purified by precipitation with ether. This operation was repeated seven times to ensure that the crude scammonic acid was entirely free from ether-soluble impurities. The scammonic acid was then warmed with 10 per cent. sulphuric acid and a glucose containing syrup was obtained. The glucose was removed by fermentation. The syrup was dissolved in alcohol, precipitated with ether and further shaken with ether for five days. After the third day brilliant crystals were deposited, the number of which was augmented by further treatment with ether. The sugar so obtained was dried at ordinary temperature, and it was found that an aqueous solution of 1 gm. in 10 c.c. gave a reading of +84 on a Fric circular polarimeter, employing a tube of 100 mm.

$$[\alpha]_D = \frac{0.84 \times 100}{1 \times 10} = +8.4^\circ.$$

The value obtained is that of ordinary rhamnose monohydrate.

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Identification of Apiol.—John King ("The Analyst," 1929, LIV, 567) states that identification of commercial apiol is difficult owing to its varying composition and to lack of information as to the different varieties available. The usual analytical constants are useful, but are not diagnostic. The red colour developed on treatment with concentrated sulphuric acid as described in the B.P. Codex is apt to be misleading, as many oily plants will give a red or red-brown colour. To be of any value the test must be made at great attenuation and the red colour compared with known specimens. The test should be taken as soon as mixing is complete, as the red colour increases on standing. The test can be suitably carried out with a Lovibond tintometer and a concentration of 1:7,500. The absorption spectrum of the colour given with sulphuric acid may be of value in some cases. Few oils have a specific gravity of more than unity but some of these contain methoxyl groups. The range 1.480-1.537 given for the refractive index of apiol also contains many naturally recurring oils. Experiments were carried out to show that a diagnostic constant for apiol is given by a Zeissl number, i.e., the proportion of volatile iodide obtained by treatment with hydriodic acid. In view of the large glyceride content of some specimens it was considered that the action of hydrogen iodide giving isopropyl iodide might disturb the results obtained, but experiments with pure triolein ruled out the possibility of any serious disturbance. It was also necessary to examine the action of hydriodic acid on substances containing the methylene-oxy group, which is contained in apiol, apart from the action on methoxyl groups, consequently piperonal was treated with hydriodic acid. It was found that no iodine compound was formed of sufficient volatility to pass into the absorption tubes under the conditions of the experiment. The following table gives the results obtained from tests made with several commercial apiols from various sources:—

Origin	Character	S.g. 15°/15°	n _D ²⁰	Sap. value	Zeissl value as weight of (CH ₃ O) from 1 gm.	Colour on Lovibond's tintometer scale at dil. of 1:7500 in $\frac{1}{4}$ in. cell			
						Immediately		After 20 hours	
						Red	Yellow	Red	Yellow
German "Merck's"	White crystals m.p., about 30°C.	1.175	1.5370	7.7	0.2582	7	5	—	—
French "apiolene"	Slightly yellow liquid, no crystals on standing	1.133	1.5828	7.0	0.2675	4	8	12	10
French "apiol" ..	Thick green oil ..	0.9729	1.4840	175	0.0256	0.4	0.4	0.7	1.0
English "apiol" ..	Green oil, no crystals on standing	1.0606	1.5080	67.0	0.2386	2.0	9.5	5.0	13
"	Thick green oil, depositing crystals on standing	1.036	1.5005	117.7	0.1190	3.0	4.5	3.0	9
German "parsley seed oil" ..	Slightly yellow liquid, no crystals on standing	1.0713	1.5260	8.0	0.0712	11	9.6	—	—
Unknown	Green oil	1.012	1.4989	—	0.0781	—	—	—	—

From these figures it is concluded that Merck's specimen is not absolutely pure, as shown by lack of sharpness in its melting point, slight optical activity and saponification value. The "apiolene" gave a theoretically correct Zeissl value, but probably contained both myristicin and tetramethoxyl allyl benzene, which in suitable proportions could account for this. The French "apiol" was obviously almost a pure glyceride. Nevertheless, under the conditions laid down in the B.P. Codex it gave satisfactory colour results. It was probably grossly adulterated with castor oil. The first English "apiol," according to its saponification value, contained probably one-third of its weight of glyceride. The Zeissl number was also too high for the remainder to be pure apiol, a tri- or tetra-methoxy compound was probably present. The second English "apiol" contained over half its weight of glyceride. The last two specimens were low in methoxyl content and were probably distilled, not extracted, oils. The German "parsley seed oil" gave a higher colour figure than Merck's specimen, indicating the lack of value that can be attached to the colour test with sulphuric acid.

BIOLOGICAL CHEMISTRY

Five "B" Vitamins.—R. A. Peters ("Nature," 124, 3124, 411) directs attention to the fact that at least five "B" growth factors are now known, viz.: (1) The original thermolabile anti-neuritic vitamin. (2) Reader's second thermolabile vitamin, absent from alkaline autoclaved yeast. (3) The thermostable anti-pellagra factor of alkaline autoclaved yeast. (4) Hunt's thermostable factor. (5) The "Williams and Waterman" factor.

A Reversible Inactivation of Insulin is described by F. H. Carr and his co-workers at the "A-B" Insulin Physiological Laboratories ("Biochemical Journal," XXIII, 5, 1010). It is found that insulin can be inactivated by ethyl alcohol and hydrochloric acid (e.g., 0.75 N hydrochloric acid in 75 per cent. ethyl alcohol), but the activity is completely recovered by treatment with aqueous solution of sodium hydroxide. The rate of inactivation increases with rise in temperature. It is suggested that the inactivation is due to esterification, and the inference is made that the activity of insulin depends upon one or more free carboxyl groups.

Rickets-Producing Factor.—L. Mirvish, in a letter to "Nature" for September 14 (3124, 411), describes a simple method of extracting Mellanby's rickets-producing factor from oatmeal. On injection the cereal extract behaves in all respects to ovarian extract in lowering blood calcium by 30-35 per cent. within twenty-four hours, with a return to normal in about forty-eight hours. Hence the action of the "anti-vitamin" is simply due to change in blood calcium, but the most important implication is that rickets cannot be conceived as purely a vitamin-deficiency disease, but as primarily and ultimately due to lowering of blood calcium (whether by lack of vitamin D, cereal effect, or faulty Ca: P ratio).

Distribution of Vitamin B₂.—W. R. Ackroyd and M. H. Roscoe ("Biochemical Journal," XXIII, 3, 483) have estimated roughly the distribution of the thermostable vitamin B₂ in foodstuffs. This vitamin promotes growth and prevents dermatitis, and is probably identical with the "P.P." anti-pellagra factor. Dried yeast is rich in vitamins B₁ and B₂, but autoclaved yeast contains vitamin B₂ only. Cereals contain more of the B₂ than of the B₁ factor, whereas with milk and meat the reverse condition obtains. The vitamin B₂ value is estimated by the minimum amount required to support normal weight increase in newly-weaned rats. The following foodstuffs are arranged in descending order as regards vitamin B₂ content as reckoned on dry weight:—(1) Dried ox liver; (2) dried yeast; (3) autoclaved yeast; (4) meat (dried steak); (5) milk solids; (6) dried egg yolk; (7) wheat germ; (8) wheat bran; (9) dried peas. Dried ox liver, yeast and fresh whole milk are excellent sources of vitamin B₂, while dried meat and egg yolk, though less good, are richer than cereals. Dried peas have a low vitamin B₂ content, but this is better than whole wheat or whole maize.

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Measurement of Antirachitic Potency.—K. Blunt and R. Cowan call attention ("Journal of the American Medical Association," 93, 16, 1219) to the variation in standards for antirachitic potency. Bills gives definite directions for feeding for eighteen (or a few more) days after weaning and then feeding the test preparation for exactly five days. The "minimum curative dose" is the amount of the oil required to produce definite but not extensive healing. As a standard he takes the average activity of Newfoundland medicinal cod liver oil. On the average this produces distinct (2+) healing at a level of 0.25 per cent. of the diet. He calls this standard 100. Coward in England has taken as the unit of antirachitic potency the amount of activity contained in 0.0001 mg. of irradiated ergosterol. The Council on Pharmacy and Chemistry of the American Medical Association defines one "rat unit of vitamin D" as "that amount of vitamin D which, when uniformly distributed into the standard vitamin D deficient diet, will produce a narrow and continuous line of calcium deposits on the metaphyses of the distal end of the radii and ulnae of standard rachitic rats." A "potent cod liver oil" contains one of these rat units in every 0.75 mg. This step is taken for measuring the potency of samples of irradiated ergosterol, now to be known in the U.S.A. as "viosterol."

Vitamin-B Values of Foodstuffs.—R. H. A. Plimmer, W. H. Raymond and J. Lowndes ("Biochemical Journal," XXIII, 3, 546) record the vitamin-B values of cereals and pulses as compared with dried yeast. The results must be considered as due to vitamin B₁ and vitamin B₂ together, as there is as yet no means of differentiating these two growth factors. The standard of comparison is made by taking dried yeast as 100, when 4 per cent. of this in the diet was sufficient to maintain a pair of pigeons alive for twenty-six weeks or longer. On this basis the following foodstuffs tested as follows:—

	Percentage for maintenance	Relative vitamin-B value
Dried yeast	4	100
Peanuts	20	20
Hazel nuts	20	20
Split peas	30	13
Whole dried green peas	30	13
Lentils	30	13
Soya beans	30	13
Hariot beans	40	10
Ground almonds ..	40	10
Whole almonds ..	40	10
Dried chestnuts ..	40	10
Coconut	—	—

The values of cereals are being redetermined:—For whole wheat 40 per cent. in the diet will suffice; for oatmeal and maize the amount is 50 per cent. Parsnips and leeks (60 per cent.) or potatoes and artichokes (80 per cent.) fulfil maintenance requirements as regards vitamin B, but other vegetables and fruits do not contain any appreciable amount of this vitamin.

INDUSTRIAL CHEMISTRY

Base-Exchange Water Softening Process.—Technical Paper No. 1, by A. R. Martin, Ph.D., on Water Pollution Research of the Department of Scientific and Industrial Research, summarises the existing knowledge on water softening by the base-exchange or zeolite process. The softening of water by the base-exchange process is assuming increasing importance, and this Report summarises existing knowledge of the subject. Following a brief historical introduction the technique of the process is described, and its advantages and disadvantages in comparison with the older lime-soda process are set out. The preparation of base-exchange materials is briefly described, and the concluding sections, dealing with the theory of the process, serve to indicate the incompleteness of existing knowledge in this direction.

Freezing Mixture.—A freezing mixture, having the advantage of low price, is outlined in German Patent

Specification No. 463,792, Wilhelm Kasch, Berlin. The preparation, which is intended to supersede the comparatively expensive ammonium nitrate-sodium carbonate-water mixture, can be used in a number of different combinations giving varying degrees of temperature, the lowest being a drop of 31 degrees centigrade. The following proportions are given with the temperature drops indicated:—

100 parts ..	NH ₄ Cl	} = Temperature drop 23° C.
50 parts ..	Na ₂ CO ₃	
300 parts ..	H ₂ O	
100 parts ..	NH ₄ Cl	} = Temperature drop 24° C.
150 parts ..	Na ₂ CO ₃	
400 parts ..	H ₂ O	
100 parts ..	NH ₄ Cl	} = Temperature drop 27° C.
100 parts ..	Na ₂ CO ₃	
300 parts ..	H ₂ O	
100 parts ..	NH ₄ Cl	} = Temperature drop 29° C.
100 parts ..	Na ₂ CO ₃	
200 parts ..	H ₂ O	
100 parts ..	NH ₄ Cl	} = Temperature drop 31° C.
150 parts ..	Na ₂ CO ₃	
300 parts ..	H ₂ O	

Toxicity of Pyrethrins to Insects.—The insecticidal activity of the isolated pyrethrins has been determined by C. B. Gnadinger and C. S. Corl ("Journal of the American Chemical Society," 1929, 51, 3054) by experiments on *Blattis germanica*. It has been observed that an acetone or alcoholic solution of pyrethrins when diluted with water formed a stable colloid suspension possessing insecticidal power. For the experiments with cockroaches the pyrethrins were dissolved in alcohol and then diluted with water to the desired strength. The amount of alcohol in the solution applied to the cockroaches was less than 0.5 per cent. The dilute solutions were freshly prepared before each experiment and the pyrethrins remained uniformly distributed without settling or floating. The results of the experiments are given:—

Composition of solution tested				Cockroaches dead in 24 hours, per cent.
Pyrethrin mgm.	Water c.c.	Ratio pyrethrin: water		
I	33	1000	1:30,300	100
I	20	1500	1:75,000	100
I	12.5	1000	1:80,000	100
I	20	2000	1:100,000	50, balance disabled
I	20	3000	1:150,000	None dead; all disabled
II	33	1000	1:30,000	100
II	20	1500	1:75,000	100
II	12.5	1000	1:80,000	50, balance disabled
II	20	2000	1:100,000	50, balance partly disabled
II	20	3000	1:150,000	None dead; all recovered

Assay of Pyrethrum Flowers.—C. B. Gnadinger and C. S. Corl ("Journal of the American Chemical Society," 1929, 51, 3054) describe a rapid method for the quantitative determination of the active principles in pyrethrum flowers, depending on the property of pyrethrine I and II of reducing alkaline copper solution, used in conjunction with Folin's method for the colorimetric determination of dextrose. Extract 20 gm. of ground pyrethrum flowers (about 30-mesh) for five hours with petroleum ether (90-99 per cent.; max. b.p. 60°, distilling 20-40°), in a Soxhlet extractor. Cool the petroleum ether solution to about 20° and let stand for at least half an hour. Filter through a quantitative filter paper into a 400-c.c. beaker, add a few grains of ignited sand and evaporate at a temperature not exceeding 75°. As soon as the last traces of petroleum ether are driven off, transfer the residue with five or six portions of boiling 95 per cent. aldehyde-free alcohol to a 100-c.c. volumetric flask (previously marked at the 80-c.c. point), using sufficient boiling alcohol to make the volume 80-85 c.c. To the hot solution add from a pipette 15 c.c. of basic lead acetate solution (20 gm. basic lead acetate to one litre recently boiled water), and make to the mark with hot alcohol. Shake vigorously, cool at once

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to 20°, and again make to the mark with alcohol. Filter, and to the filtrate add about one gram of anhydrous sodium carbonate. Let stand for ten to fifteen minutes, shaking frequently, and filter. Immediately pipette 10 c.c. of the clear filtrate into a Folin tube and add, also from a pipette, 6 c.c. of alkaline copper solution. Mix thoroughly, keeping the solution in the bulb of the tube. Measure 10 c.c. of standard dextrose solution (2 mgm. of dextrose) with a pipette into a second tube and add 6 c.c. of copper solution. Place the tubes upright in the constant-temperature bath, set at 78° corrected, and heat for exactly forty-five minutes. Remove from the bath and place in water at 20° for three minutes. Add 10 c.c. of Folin's phosphomolybdate reagent from a pipette and let stand for three minutes; then stopper the tubes, mix thoroughly, transfer to 100 c.c. volumetric flasks and make to the mark with water. Filter through a Gooch crucible fitted with a heavy asbestos pad, using gentle suction. Do not use filter paper. The dextrose solution need not be filtered. Compare the solutions at once in the colorimeter, and from the readings calculate the dextrose equivalent to the unknown solution in the usual way. Reference to a calculated table showing the copper reducing power of dextrose and pyrethrins will give the amount of pyrethrins, in milligrams, equivalent to the dextrose found in the unknown solution, or milligrams of pyrethrins in the 2 gm. aliquot of flowers taken. The modified Folin sugar tubes are blown to contain 15.5 c.c. to base of construction. When heated to 78° the surface of the liquid must fall within the constricted portion, whose internal diameter should be the same for all tubes in a set. Details are given in the paper for preparing the reagents.

BOTANY

New Species of *Oidium*.—A. C. Chapman ("Transactions of the British Mycological Society," XIV, parts iii and iv, October 1929) describes a new species of *oidium*. The mould was originally obtained from a sewer growth and differed in certain respects from known species, especially in the tough leathery form assumed by the mycelium, the thick walls and large spores. Culture experiments were made, using different media. The mould grew rapidly on malt wort, wort agar slopes and Raulin's solution. On fermented malt wort there was no growth, even after fourteen days. A white felty growth formed on sterilised milk, and the acidity increased from 0.13 per cent. at the beginning of the experiment to 0.5 per cent. at the end of six days. Glucose broth and lactose broth also showed a thick white felty growth, but there was no gas production or acidity. There was slow growth with nutrient gelatin, but no liquefaction at the end of ten days. The spores average 12-14 μ in length and about 5-10 μ in width; they resemble *Oidium matalense*, but are of a different species, or at least a different variety.

DENTISTRY

Dental Caries and Calcium Content of Saliva.—K. Horton, J. Marrack, and I. Price ("Biochemical Journal," XXIII, 5, 1075) conclude that dental caries is definitely associated with reduction of the concentration of calcium in saliva. This reduction appears to be secondary to the caries. Inorganic phosphate does not vary with the extent of the caries, and there is no relation between serum and salivary calcium.

Dental Syringes.—F. St. J. Steadman ("The British Dental Journal," October 1, 1929), dealing with local analgesia in dental practice and its technique, recommends keeping syringes in the following antiseptic solutions: Phenol 40 parts, sodium bichlorate 5 parts, glycerin 200 parts, peppermint water 30 parts, distilled water, q.s., to 1,500 parts. He recommends, however, that the strength of the phenol should be doubled in order to sterilise needles rapidly.

Treatment of Afterpain.—A. T. Pitts ("British Dental Journal," November 15, 1929) deals with the sequelae of local anaesthesia. For the treatment of after-pain the

frequent irrigation of the socket with a hot mouth-wash is useful. The mouth-wash should be as hot as can be borne, a point not always realised. The constitution of the mouth-wash is less important than its mechanical cleansing effect, though a carbolic lotion is useful because of the anaesthetic action of the phenol. Syringing the socket forcibly may help, though if there is much laceration, as after a very difficult extraction, patients may complain that the syringing aggravates the pain. If there is swelling the local application of an icebag is often helpful. The best way to apply cold is to fill a rubber finger-tip with crushed ice and tie the end. This can be applied to the painful socket. Orthoform, which is an insoluble local anaesthetic, is a valuable drug. It may be used mixed with sterile vaseline and packed lightly into the socket, and is better than a tablet of novocain, which is quickly dissolved. Anaesthesia, which is similar to orthoform, is recommended by A. E. Smith. Hypnotic or sedative drugs may be needed in severe cases. Their name is legion, and almost every week sees a fresh synthetic preparation put on the market. Their action is often powerful, but a word of warning must be given, for they are not always safe, and many accidents have been recorded. A. E. Smith gives the following formula for use in cases of after-pain:—

Anaesthesia	...	...	...	...	gr 25
Chloretone	...	...	...	...	gr. 25
Menthol	...	...	...	...	gr. 5
Oil of wintergreen	...	...	...	...	℥5
White vaseline	...	...	...	...	5℥

Fill the socket or bone cavity with the paste.

Oral Sepsis in Relation to General Disease.—J. M. Acland, in the presidential address to the section of odontology of the Royal Society of Medicine ("Proceedings of the Royal Society of Medicine," November 1929) states that there are certain diseases more often associated with the sepsis connected with dead teeth than with a suppurating periodontitis. These diseases are especially those leading to chronic inflammation of fibrous tissues and serous membranes, and cases of neuritis come into this category. The type of streptococcus found in these cases is not the long-chained *pyogenes*—the streptococcus of acute suppuration—but *salivarius*, a short-chained variety, held up at the very root of the dead tooth, and the pathological process going on here, leading to sclerosis, is precisely similar to that which is taking place in the muscular fasciae and the sheaths of the nerve trunks. These cases of injury to health caused by dead teeth are very numerous, possibly more so than those of pyorrhoea alone, and although it is a remarkable fact that many cases of pyorrhoea occur in patients with absolutely sound teeth, there are necessarily many others in which the two diseases co-exist. With pyorrhoea alone there is free drainage into the mouth, but in the case of apical infection in dead teeth we have an infected pulp chamber where bacteria multiply and discharge themselves and their toxins into the system, and thus we get a peri-apical bone necrosis, the so-called "apical dental abscess." These are the most serious lesions found in connection with dental sepsis, and it is these which give rise to the gravest general disease resulting therefrom. In lesions of this type, sooner or later, general disease must follow and there can be no compromise—the affected tooth must go. The organisms may be conveyed by the blood-stream to other parts.

ESSENTIAL OILS

Oil of *Asarum Europaeum*.—S. Gerö ("Riechstoffindustrie" 1928, 3, 176, 195, 214, 232; "Chemische Zentralhalle," 1929, i, 946) gives the composition of this oil as follows:—Asaraldehyde $C_{10}H_{12}O_4$ (oxime, m.p. 138°), asarone, diasarone ($C_{12}H_{14}O_3$), oxidised to asaronic acid, an ethereal substance, and a sesquiterpene and sesquiterpene alcohol. Soil and climatic conditions affect the composition of the oil.

Phenylethyl Alcohol in Essential Oils and Perfumes.—S. Sabetay ("Annales de Chimie Analytique," 1929, II, 193). The presence of phenylethyl alcohol can be detected by slowly distilling the fraction in

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question with potassium hydroxide in a coarse powder. The fraction coming over at 140° to 160° will consist of styrolene, which can be recognised by its smell and by forming its dibromo derivative (m.p. 72° C.), if phenylethyl alcohol was originally present. Geraniol or rhodinol do not interfere with the result unless present in large quantities. A rough estimate of the amount of phenylethyl alcohol is given by the amount of dibromostyrolene.

Essential Oil of Podocarpus Ferruginosus.—Horking and Short ("Recueil des Travaux Chimiques des Pays-Bas," 47, 1928, 834) have obtained 0.14 per cent. of essential oil from the terminal branches of this plant. The oil had the following characters:—Specific gravity, 0.9602; refractive index, 1.4922; optical rotation, +33°. The oil has the following approximate composition:—*d*- α -pinene, 36 per cent.; myrcene, 27 per cent.; cadinene, 12 per cent.; limonene and dipentene, 5 per cent.; cineol, 2 per cent.; resin, 5 per cent.; undetermined, 13 per cent. The above represents the oil obtained from autumn-gathered branches. The summer oil has the same general characters, but the amounts of the various constituents differ somewhat from those of the autumn oil.

Chemistry of Citronellol.—Interesting papers have recently appeared by Dœuvre, on the chemistry of citronellol ("Bulletin de la Société Chimique," 1929, 45, 351 and 403). He shows that geraniol, obtained from Java citronella oil and still containing some *d*-citronellol, when ozonised gave 16 per cent. of formaldehyde, 35 per cent. of formic acid, and 90 per cent. of acetone, thus indicating that the *beta*-form is the principal constituent. Alcoholic potassium hydroxide converts this geraniol into a methyl-heptenol, which on ozonisation indicates the presence of 90 per cent. of *beta*-form, and say 10 per cent. of *alpha*-form (limonene). The action of boiling hydriodic acid on methylheptenol yields a mixture of iodo-derivatives, which react readily with magnesium in ether. Repeated treatment of the fraction boiling at 115°-125° at 14 mm., with alcoholic potash to destroy the geraniol, yielded *d*-citronellol boiling at 119°-120° at 20 mm., and having a specific gravity 0.866 at 17°/4°; refractive index 1.4617 at 17°; and specific rotation +2.23°. This, by ozonisation, is shown to consist of 20 per cent. of the *alpha*- and 80 per cent. of the *beta*-forms. Purification of the citronellol through the benzoate gives *d*-citronellol, having the following characters:—Boiling point, 118°-119° at 18 mm.; specific gravity 0.860 at 15°/4°; refractive index 1.4572; and optical rotation +2.3°.

Hungarian Essential Oils.—M. Janicsek and M. Folsch ("Riechstoffindustrie," 1923, 3, 197, 211, 217, 233; "Chemische Zentralhalle," 1929 i, 945) give the constants of the following essential oils:—

	d_{15}^4	α_D	n_D^{20}
Thymus vulgaris	0.9051	— 2° 80'	1.4922
"	0.906	—	—
Thymus serpyllum	0.8944	—10.93'	1.4859
Salvia officinalis			
(German seed)	0.9195	+13° 32'	1.4631
(French seed)	0.9195	— 1° 60'	1.4623
L.	0.926	—	—
Mentha crispa	—	—	1.4793
Chenopodium ambrosioides			
var. anthelminticum	0.9852	— 8° 39'	1.4760
Lavandula vera	0.8885	— 7° 37'	1.4632
Juniperus communis	0.8686	— 5° 61'	1.4802
" L.	0.876	— 7° 12'	1.4793
Peppermint	0.901-0.905	—26.38°	1.4605
Tanacetum vulgare, L.	0.926	—	—
Salvia sclarea, L.	0.918	+ 4°	1.4603
Achillea millefolium	0.935	—	—
Wine lees oil	0.8771	+ 0.5°	1.4296

The oil of *Salvia sclarea* has an acid value of 1.25, ester value of 21.2, and ester value after acetylation 69. Wine lees oil has an acid value of 54 and an ester value of 208. The total menthol in the peppermint oil was 59.6 per cent.

Terpeneless Citrus Oils.—Professor G. Romeo ("Rivista Italiana delle Essenze e Profumi," October, 1929) gives standards for a number of terpeneless citrus oils. *Terpeneless oil of lemon.*—Colourless or pale straw-yellow, s.g. 15°, 0.8935-0.900; optical rotation at 20°, -5° to -8° 30'; refractive index, 1.481; citral, 40-52 per cent.; esters (calculated as linalyl acetate), 16-25 per cent.; sesquiterpenes, 20-24 per cent.; solubility in alcohol, 80 per cent., 1 in 1, or in alcohol 75 per cent., 1 in 3-8. *Sesquiterpeneless oil of lemon.*—S.g., 15°, 0.897-0.902; optical rotation at 20°, -3° 45' to +1°; citral, 60-68 per cent.; esters (linalyl acetate), 14-20 per cent.; sesquiterpenes, traces; solubility 1 in 6-15 volumes of 60 per cent. alcohol, or 1 in 1-3 volumes of 70 per cent. alcohol. The solution must not become turbid in adding alcohol of similar strength. *Concentrated oil of sweet orange.*—S.g., 15°, 0.866-0.900; optical rotation at 20°, +20° to +35° (in some cases up to 40°); solubility in 70-75 per cent. alcohol, 1 in 2-4 volumes; aldehydes, calculated as citral, 30-40 per cent.; esters, 10-15 per cent. *Concentrated oil of bitter orange* has a lower optical rotation and a higher ester content than sweet orange. *Concentrated oil of mandarin.*—S.g. 15°, 0.930-0.960; optical rotation at 20°, +7° to +20°; solubility in 70-75 per cent. alcohol, 1 in 3-4 volumes. One drop of oil dissolved in a test-tube of 96 per cent. alcohol gives a brilliant violet fluorescence—owing to the presence of methyl methyl-anthranilate present to the extent of 15-20 per cent. *Terpeneless oil of bergamot.*—S.g., 15°, 0.890-0.898; optical rotation at 20° -3° to -10°; solubility in alcohol 70 per cent., 1 in 2; esters (linalyl acetate), 60-70 per cent.

Physical Constants of Essential Oils.—A report of the Essential Oil Subcommittee to the Standing Committee of the Society of Public Analysts on "Uniformity of Analytical Methods" ("The Analyst," June 1929). The apparatus for determining freezing and melting points should consist of a stout test tube, 125 mm. \times 30 mm., fitted into a wide-mouthed jar of 500 c.c. with a bored cork. An inner test tube, 100 mm. \times 21 mm., is fitted inside the first with a bored cork. The thermometer should be 15-20 mm. \times 5-6 mm., and read to $\frac{1}{2}$ degree. To ascertain freezing points a preliminary indication is obtained by cooling a small amount of the oil in a small test-tube. The actual determination is carried out by filling the outer container of the apparatus with brine 5° lower than the previously determined temperature + placed in the apparatus. Into the inner container 10 c.c. of the oil are placed and then cooled to the temperature previously determined. The container is placed in the apparatus and cooled for a further 1 or 2 degrees. The oil is mixed with a trace of the previously solidified oil and stirred till it solidifies. The highest temperature recorded is the freezing point. Melting points are determined by removing both tubes from the water jacket after determining the freezing point and stirring while the temperature rises until the liquid is clear; this temperature is the melting point. The remaining crystals at this point will become "glistening," giving a sharp indication of the clearing point. If necessary, the oil should be dried with anhydrous sodium sulphate. This method does not suffice for otto of rose, as there is no definite rise in temperature on solidification. The outer container is filled with water about 10° below the freezing point, and the oil in the inner tube stirred gently until crystals begin to separate. This is the freezing point. The temperature is then let drop 2° and both tubes together removed from the water-jacket. The temperature is allowed to rise until the oil becomes free from all but a few glistening crystals. This is the melting point. Boiling point should be determined by means of a standard apparatus as follows: A four-bulb flask, 20 cm. high, with bulbs of 2.5, 3, 3.5 and 6 cm. diameter, should be used, supported on an asbestos board having a hole 4 cm. in diameter. A screen should be used to protect both flask and burner. The air condenser should be a plain glass tube, 1-1.2 cm. bore and 65 cm. long, connected to the delivery tube by a bored cork. The amount taken for testing should be 50 c.c., distilled at a rate of 50 to 70 drops a minute. The thermometer should be either of the

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short-stem type or should be corrected for emergent column. The top of the bulb should be level with the bottom side of the delivery tube. Temperature corrections should be: (1) for variation in barometric pressure $\pm 1^\circ \text{C}$. per 20 mm., variant from 760 mm.; (2) for emergent column by the formula T (corrected temp.) = t (observed temp.) + $0.000143 t - t^2$ N (length of emergent col. in scale degrees). N.P.L. standard thermometers should be taken as standard checks.

Essential Oil of Silver Pine (*Dacrydium Colensoi*).—

W. J. Blackie ("Journal of the Society of Chemical Industry," 1929, 48, 357r.). The leaves and twigs are steam distilled at 240° and the oil extracted from the distillate with light petroleum. The yield of oil is from 0.18 per cent. (autumn) to 0.11 per cent. (winter). The yield from twigs alone is about 0.005 per cent. On fractionation at 15 mm. four fractions were obtained:—

Fraction	Temperature	Yield
1. Terpene and solvent ..	Up to 50°	per cent. 4.1
2. Terpene	$50-100^\circ$	12.6
3. } Sesquiterpene	$100-150^\circ$	8.4
4. }	$150-175^\circ$	7.5
Residue solidifying	Above 175° (by diff.)	67.4

Fraction (1) was not examined, as it contained solvent. Fraction (2) contained about 1.2 per cent. esters and so was saponified with alcoholic potash, and after extraction of the acids yielded two fractions on distillation:—

Fraction	B.p. at 160 mm.	Refractive index	Weight
2 (a) ..	$157-163^\circ$	1.4730	10.5 gm.
2 (b) ..	$163-170^\circ$	1.4758	4.5 gm.

These were mixed and warmed with sodium and then distilled several times, yielding a fraction of 109 between $159-152^\circ$ at 760 mm., having s.g. at $13^\circ/13^\circ$, 0.8556; $[\alpha]_{20}^{20}/D + 42.5^\circ$; n_{20}^{20}/D 1.4730, a small amount of oxygen was shown to be present found C 88.04, H 11.61, mol. wt. 143; $C_{10}H_{16}$ requires C 88.23, H 11.77 and requires mol. wt. 139. On adding bromine dissolved in chloroform drop by drop small amounts of hydrogen bromide were given off. Decomposition occurred giving hydrogen and bromine on removing the solvent at 60° at 760 mm. A liquid hydrochloride was obtained which was dark red in colour and gave Cl. 20.00, 20.18 per cent.; $C_{10}H_{16}HCl$ requires 20.58 per cent. The nitrosochloride was formed by Ehenstädt's method yielding a gummy mass which dissolved on treatment with ether leaving about 0.1 gm. (from one gm. of the terpene) of fine colourless crystals, which had no melting point under 114° . The determination of the m.p. could not be made owing to the small amount available. Dacrydene (120°) is only terpene nitrosochloride melting above 114° . The liquid monohydrochloride and liquid bromine compound also decomposed in a similar manner to those of dacrydene, but the physical constants do not accord well with dacrydene, which has s.g. at 22° , 0.8524; $[\alpha]_{22}^{22}/D + 12.3^\circ$; n_{22}^{22}/D 1.4749; b.p. $165-166^\circ$. The terpene is a colourless mobile liquid with an odour resembling limonene. It was not definitely identified. The constants of fractions (3) and (4) were:—s.g. at 15° 0.9249, 0.9549; n_{15}^{15}/D —, 1.5150; $[\alpha]_{15}^{15}/D$ -17.18° , -3.10° . After mixture, saponification and repeated distillation two fractions were obtained. One was very small in amount and was probably a sesquiterpene light yellow in colour, b.p. 200° at 760 mm. The other, after purification with sodium, gave a colourless, odourless oil, with b.p. $135-137^\circ$ at 15 mm.; s.g. at 15° , 0.9426 n_{13}^{13}/D 1.5096; $[\alpha]_D$ -30.82° (found C 87.51, H 11.28, mol. wt. 208; $C_{15}H_{24}$ requires C 88.23, H 11.77, mol. wt. 204. The hydrochloride had m.p. 117° unaltered when mixed with cadinene hydrochloride, identifying the presence of cadinene, although the physical constants are not in good accord. The residue of the oil (67.4 per cent.) is

a white solid which crystallises from chloroform on addition of methyl alcohol. It is soluble in most of the ordinary hydrocarbon solvents. The crystals after purification melted sharply at 98° and had n_{13}^{13}/D 1.5120 (found C 88.18, H 11.62, mol. wt. 270. $C_{20}H_{32}$ requires C 88.24, H 11.76, mol. wt. 272. It is therefore a diterpene, and on mixture with dacrene no variation occurred in the melting point, definitely identifying it as dacrene.

FIXED OILS AND FATS

Saponification of Oils.—J. W. McBain, C. W. Humphreys, and Y. Kawakami ("Journal of the Chemical Society," October, 1929, 2185) find that the rates of saponification of oils, fats, and waxes vary as much as two-hundred fold. The results are best explained by variation as to degree of emulsification. The fastest reactions appear when the oil is wholly emulsified. Hence the splitting takes place in the interface and not in either the oil or the water phase.

Solubility of Oils and Waxes in Organic Solvents.—J. W. Poole ("Industrial and Engineering Chemistry," November 1929) gives various data concerning the relative solubilities of wax and oil in several organic solvents. This information has been obtained for the purpose of encouraging the commercial use of extraction processes for the separation of oils and waxes. The work indicates that of the solvents investigated—acetone, butanol, acetone-butanol mix, ethyl acetate, butyl acetate, chlorobenzene, and toluene—butanol offers the best possibilities for solvent extraction, when one considers selective solvent power, temperature of use, volatility, and initial cost. Addition of acetone does not appear to improve the qualities of butanol. After butanol, ethyl and butyl acetates seem to be the most suitable for commercial applications.

Cascara Oil.—A. Jermstad ("Pharmaceutica Acta Helvetica," June, 1929) describes the characters of a dark-brown oil obtained by steam distillation of the residues left in cascara sagrada extract manufacture. The constants were as follows: S.g. at 15° , 0.8923; n_D^{20} , 1.4568; acid value, 3.7; saponification value, 189.4; iodine value, 86.4. Chemical examination showed that the oil contained palmitic acid, oleic acid, linoleic acid, but these acids are not in combination with glycerin. From the unsaponifiable residue the hydrocarbon dokosan ($C_{22}H_{46}$) was isolated. A portion of the unsaponified residue of the oil distilled between 185° and 189° ; the refractive index of the distillate being 1.4901 at 19° . Pharmacological research has shown that cascara oil has no marked purgative action.

MATERIA MEDICA

A New Substance in Chinese Liquorice.—P. A. Houseman and C. K. Swift ("American Journal of Pharmacy," October 1929) claim that in their work on the resins and bitter principles of liquorice they have isolated from the Chinese root a new substance of the formula $C_{20}H_{21}O_6$. They have not found this in other varieties, but point out that this does not deny its presence. It seems probable that the yellow crystals $C_{15}H_{11}O_4$ (derived from the hydrolysis of $C_{20}H_{21}O_6$) are closely related to hydroxy- α -lapachone. Further investigation has been postponed.

Nature of Gum Acacia.—A. G. Norman ("Biochemical Journal," XXIII, 3, 524) gives data making it clear that ordinary gum acacia is not a substance with a definite empirical formula. However, in general composition it consists of a galactose and a uronic acid (probably galacturonic acid) linked to arabinose by glucosidic linkages. The arabinose is more easily split off than the other components. There does not appear to be any essential difference in structure between gums and hemicelluloses, both containing hexose and pentose sugars linked to uronic acids. The author states that it is possible on purely chemical grounds to account for the formation of pectin, hemicelluloses and gum by the protracted mild oxidation of linked hexose units. It is undoubtedly a

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fact that galactose derivatives are met with most frequently in these substances, and it is curious that galactose occupies a more important place than glucose in this transition into pentosans. The first apparent stage in the oxidation of galactans is the production of pectin, which appears to take place when plant metabolism is at its zenith. Pectin formation decreases as maturity is reached and the rate of growth slows down. Subsequently the pectin is partially converted into other substances, and it is probable that hemicelluloses and gums are built by this intermediate oxidation of hexosans.

Preparation of Catgut.—The Medical Research Council Special Report No. 138 (Stationery Office, 4s.) deals with the preparation of catgut for surgical use. The problem has been to secure efficient sterilisation without serious loss of tensile strength. The general conclusions reached are summarised as follows: (1) It has been shown that the pH of the collagen ribbon wash liquid is an important factor in the production of ligatures. To prevent degradation a wash liquid of pH 4.7 is required, but for optimum strength pH 8-9. A compromise may be effected by carrying through most of the process of washing in a solution of pH 4.7 and finishing with a bath of alkali at pH 8-9. For this same reason the ribbons should not be washed in water before spinning. (2) Optimum strength of ligature is obtained by using narrow ribbons and spinning each individually and then collectively, so that each ribbon makes 2.5 turns per inch and then collectively a further 5 turns per inch. It is important that the spinning should be uniform, otherwise the strength and diameter along its length will vary. (3) It has been shown that when ligature is treated with iodine an acid is produced, which is harmful for the reason given in (1). Means of reducing or eliminating this effect have been worked out by the use of potassium iodate. (4) It has been demonstrated that the treatment of ligature for 8-9 days in such a way that it absorbs 12 per cent. of its weight of iodine ensures sterility. (5) The disadvantages of excessive treatment with iodine have been demonstrated and the advantages of removing the iodine from the ligature after sterilising indicated. (6) Data have been obtained whereby control of the amount of the absorbed iodine may be obtained. (7) The advantages of incorporating glycerin in the iodine solution and in the final alcohol solution have been illustrated, particularly from the point of view of flexibility of the ligature, and, therefore, strength of the knot. (8) It has been shown that the ligature in aqueous iodine swells. This may be reduced by treating it under tension, when its tensile strength is increased.

MEDICINE

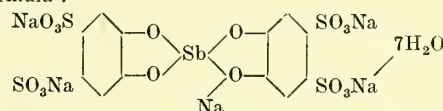
Quinine Acid Hydrochloride as an Evacuant.—A. B. Graham reports ("Journal of the American Medical Association," 93, 16, 1187) on the action of quinine acid hydrochloride on the intestine in 185 cases of chronic constipation. Further studies with this therapy in cases of uncomplicated constipation are necessary before the real value of this double salt of quinine can be determined. If a rapid evacuation of the contents of the rectum and pelvic colon is desired, the administration of a 5-gr. quinine acid hydrochloride suppository is preferable to a cathartic or stimulating enema.

Action of Harmine.—T. R. Hill and C. Worster-Drought have had under observation ("Lancet," 5535, 647) thirty-eight cases of generalised parkinsonism, following encephalitis lethargica, which they have treated with harmine, administered by mouth in half the number of cases and hypodermically in the other half. They find that in doses up to 0.04 gm. given hypodermically it has no perceptible objective or subjective effect in ameliorating any of the symptoms presented in the parkinsonian syndrome, and is of no value in the treatment of this condition. When given in the above doses harmine produces toxic symptoms of dizziness, headache, nausea and vomiting in a certain proportion of cases.

Treatment of Barber's Rash.—J. A. Scott gives the following routine of treatment ("British Medical Journal," 3587, 621) for barber's rash to be carried out once a day.

(The patient should not shave more than twice a week.) (1) Epilate infected follicles and evacuate pustular lesions with a clean needle. (2) Wash the affected parts, using Midgley's 10-per-cent. superfatted sulphur soap. (3) Dry the parts, leaving them slightly damp by mopping with a towel. (4) Apply the following iodine solution, with a tampon of cotton-wool, all over the affected parts, fairly hard: Iodine (without potassium iodide), 4 gr.; spirit (90 per cent.), 1 oz. (5) Allow to dry. (6) Smear the following sulphur lotion, sparingly, all over the affected parts: Sulph. præcipit., 1-2 dr.; spt. camph., 1 dr.; lot. calaminæ ad 8 oz. (7) Allow to dry. (8) Apply very sparingly a small quantity of the following zinc cream all over the affected parts: Zinci oxidi, 15 gr.; neutral yellow vaseline, 1 oz. (9) Dust over sparingly with pure talcum powder.

Treatment of Schistosomiasis.—M. Khalil and others review the treatment of schistosomiasis since 1915 ("Journal of the Egyptian Medical Association," 12, 8, 137), and give results obtained by the intramuscular injection of fonadin, an antimony compound with the formula:—



This remedy has been evolved by Hans Schmitt, of Elberfeld, working in association with the Public Health Department of Egypt. The compound is unstable, but a 7-per-cent. solution can be kept for six months. The adult dose of the solution ranges from 1.5 c.c. on the first day to 5 c.c. on the third and succeeding days up to the fifteenth. The local and general reactions of an unfavourable character that follow the administration of tartarated antimony in the same disease are slight or absent in the case of fonadin. A special two-way syringe has been devised by Professor Khalil for administration of the injections to several patients in succession.

Uses of S.U.P. 36.—R. M. Pearce ("British Medical Journal," 3588, 663; 3591, 831) gives details of forty-two cases of influenza treated with S.U.P. 36, the chemical name of which is para-benzoyl-para-amino-benzoyl-aminonaphthol 3:6 sodium sulphonate. Every case (during a given period) of influenza seen, in which the disease had not existed for more than forty-eight hours, was used for records, alternate cases being treated by injection of S.U.P. 36 and the remaining cases orally by drugs such as salicylates, aspirin and influenza mixtures. Cases not first seen until more than forty-eight hours after the onset of the disease were not taken into account. The method employed in the injected cases was to inject as early as possible an initial dose of 0.5 c.c. (representing 0.005 gm.). This was followed by an injection of 0.75 c.c. on the fourth day following the initial dose if the case had not cleared up in the meantime. In some cases the initial dose given was 0.75 c.c. The injections were usually made into the gluteus medius muscle. The only drugs given orally to any of the patients treated with S.U.P. 36 were calomel, 2 to 5 gr., where indicated—in roughly half the injected patients—and the use of a simple expectorant mixture where necessary (in about 10 per cent. of the injected patients). Eventually the advantage of the injection treatment was so marked that all patients who consented were given it.—J. S. Hall ("British Medical Journal," 3591, 831) has found S.U.P. 36 specific in hyperemesis gravidarum, pyelitis, children's bronchopneumonia, venous thrombosis, osteomyelitis, acute cystitis and acute mastoiditis. He also administers 0.01 gm. before operations, with a view to diminishing or preventing post-anæsthetic vomiting.

Treatment of Burns.—W. C. Wilson describes the technique and discusses the results obtained by treating burns with a 2.5-per-cent. solution of tannic acid in sterile water, sprayed on with an atomiser ("The Tannic Acid Treatment of Burns," Stationery Office, 1s.). The total number of cases observed was 117 and the number of deaths 13 (i.e., 11.11 per cent.). If the mortality in

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children under ten years of age in this series is compared with that in another large series treated by other methods, it will be seen that the death-rate has been reduced from 38.7 per cent. to 10.48 per cent. It is possible that a larger number of cases of less extensive burns are admitted to hospital now than formerly in order that they may receive the benefits of tannic acid treatment and thus be ensured a safe and rapid convalescence. Even if this is admitted, there is no doubt that the mortality has been reduced in a striking and gratifying manner and many lives have been saved. Under previous methods shock accounted for $2\frac{1}{2}$ per cent. of deaths, acute toxæmia for 80 per cent., and sepsis for 15 per cent., the remainder occurring from causes unconnected with the injury. In this series of cases treated by tannic acid 30.77 per cent. of deaths were due to shock, 23.77 per cent. to acute toxæmia, and 23.77 per cent. to sepsis. In other words, the second stage is no longer the main danger period in the course of burns.—D. A. Coles ("Lancet," 5541, 1011), writing on behalf of the Industrial Welfare Society, expresses the view that tannic acid should be used only under medical supervision and not as a first-aid application for burns by the general public or ambulance attendants. He refers to "the complicated character of the treatment, and the extremely poisonous nature of the corrosive sublimate suggested to be used with the tannic acid."—C. B. Heald ("Lancet," 5541, 977) has obtained noteworthy healing of burns and alleviation of pain by administering, after covering the burnt surface with liquid paraffin or ambrine, very small doses of ultra-violet light from a full-sized mercury-vapour lamp at 30 in. for two minutes. Pain is more rapidly alleviated by this treatment than by picric acid, tannic acid, liquid paraffin or ambrine alone, healing is more rapid, and the resulting scar is better.—A correspondent of "The British Medical Journal" (3595) has treated all superficial burns and all scalds for the past seven years successfully with an ointment consisting of:—Calamine 30 gr., zinc oxide 30 gr., terebene 15m, yellow vaseline to 1 oz.

OPTICS

Role of Calcium in Senile Cataract.—D. R. Adams ("Biochemical Journal," XXIII, 5, 902) finds that serum calcium is appreciably higher in patients with senile cataract. Also the calcium content of cataractous lenses is much greater than normal lenses. However, it cannot yet be proved conclusively that the increase in calcium is the primary factor in the actual production of opacity in the lens.

Blindness in Old Age.—J. Jameson Evans ("British Medical Journal," November 9, 1929) gives the following analysis of the causes of blindness in 700 consecutive cases certified by him as "blind persons": Cataract, 205; atrophy of optic nerves, 78; glaucoma, 75; iridocyclitis and keratitis, 54; corneal opacities, 45; retinitis pigmentosa, 43; choroido-retinal atrophy, 42; congenital defects, 33; detachment of retina, 27; myopia, 20; phthisis bulbi, 17; choroido-retinal vascular disease, 14; diabetes, 12; ophthalmia neonatorum, 9; sympathetic ophthalmia, 9; trachoma, 9; buphthalmos, 5; injury (double)—two gunshot and one explosion, 3.

Non-surgical Aids in Glaucoma.—S. R. Gifford ("British Journal of Ophthalmology," October 1929) states that although he believes that nearly all cases of glaucoma will sooner or later require surgical intervention, there are certain cases in which operation is particularly inadvisable, or in which it is advisable to postpone it for a time. Adrenalin or glaukosan is of value, especially in simple glaucoma, and by its means tension may be kept normal for considerable periods in certain cases. Myotics should be used to prevent acute rise of tension when using adrenalin, and to prolong its effect afterwards. Amino-glaukosan presents the danger of increasing inflammation, and fails to reduce tension in many cases. Hypertonic solutions can be depended on to reduce tension before operation in acute glaucoma, and are without danger to the eye. Ergotamine will reduce tension appreciably, it may be of

value in a small percentage of cases, and may be tried safely in any case. All methods of treatment demand careful watch of the vision, fields and tension, so that the progress of the disease may be noted early enough for effective surgical intervention.

Critical Frequency of Flicker.—A knowledge of the behaviour of the eye in different states of its adaptation is of great importance for all occupations involving vision at low illuminations, and within recent years it has become recognised that adaptation may also play a prominent part in the performance of visual tasks at higher illuminations, since it is then controlled chiefly by the characters of the surrounding field of vision. R. J. Lythgoe and K. Tansley ("The Adaptation of the Eye: its Relation to the Critical Frequency of Flicker," Medical Research Council, Reports of the Committee upon the Physiology of Vision. H.M. Stationery Office, 2s. 6d.), as the result of their experiments, have drawn the following conclusions: (a) That the critical frequency due to the cones falls during dark adaptation and with decreasing levels of light adaptation, and is highest when the brightnesses of the test-patch and of the surrounds are equal; (b) critical frequency due to the rods rises both during dark adaptation and with decreasing levels of light adaptation, and is highest with completely dark surrounds; (c) peripheral cones are functionally not identical with the foveal cones; (d) brightness of the surrounds is the most important factor in determining whether the critical frequency relations are of the rod or cone type, bright surrounds encouraging the cones and dark surrounds the rods; (e) at intermediate illuminations of the test-patch and surrounds, the resultant critical frequency appears to be due partly to rods and partly to cones. (f) results got by the critical frequency of flicker method are in good agreement with the performance of the eye under other visual tests. (g) the Ferry-Porter law holds at 10 degrees on the peripheral retina when the brightness of the surrounds is the same as that of the test-patch.

PHARMACOLOGY

Action of Compounds Allied to Strychnine.—K. J. Franklin ("Quarterly Journal of Pharmacy and Pharmacology," 2, 3, 382) has tested the pharmacological action of cis-9-benzoylhexahydrocarbazole, trans-9-benzoyl-hexahydrocarbazole, cis-9-acetyl-hexahydrocarbazole and 10-acetyl-octahydroacridine B on mice and frogs, using a suspension of each in normal saline. The third of these substances, cis-9-acetyl-hexahydrocarbazole, causes death, apparently from circulatory failure. The other substances had no effect when injected in the dosage of 1 gm. per kilogram of body weight.

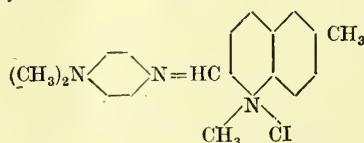
Relative Toxicity of Local Anæsthetics.—H. T. Dailey ("The Dental Cosmos," October 1929), after an investigation for the purpose of determining the relative toxicity of such local anæsthetics as cocaine, butyn, procaine and ethocaine borate by subcutaneous injection of solutions into white mice, concludes that the indications of toxicity of a local anæsthetic in terms of mortality percentages at various dosages are more expressive than the calculation of the so-called average fatal doses or "minimal tolerant dose" (M.T.D.) or "minimal lethal dose" (M.L.D.). The toxicity of butyn, cocaine, procaine and ethocaine borate as determined by injection into mice is: butyn, 150; cocaine, 100; procaine, 17.6; ethocaine borate, 9.1. These figures are approximately in accord with other work reported on different species of animals, and are a fair basis of comparison in guiding the choice of drug to be used as a local anæsthetic for injection.

Pharmacology of Eriocoma Floribunda.—G. G. Colin ("Journal of the American Pharmaceutical Association," September 1929) has investigated the physiological action of *Eriocoma floribunda*. Two fractions which have been called "Eriocomine A and B" have been isolated. Eriocomine, which appears to be the active principle of the drug, has oxytocic effects similar to those of ergot and of pituitrin. It differs from them

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in that it has no appreciable effect on blood pressure. The drug will stimulate uterine contractions, *in vivo* and *in vitro*, by peripheral action, and acts specifically on unstriated muscle. The plant contains a large amount of inert material which must be removed to avoid side actions which may introduce considerable error in the observations. Eriocoine has been used successfully to combat *post-partum* hæmorrhage and to stimulate uterine involution. Its use to stimulate uterine contractions during labour seems to be dangerous. Until the action of the drug is better known, it should never be used before delivery. Its specific indication seems to be in *post-partum* hæmorrhage and in some other forms of hæmorrhage from the uterus.

New Quinoline Derivative.—G. Armitage and others describe antiseptic, toxicity and clinical tests made with 48 S, one of several derivatives of anil-quinoline. (The series formed the subject of a paper in the Proceedings of the Royal Society, B., 1926, c., 293.) The member of the group selected has the following formula:—



2 (p-dimethylamino anil) 6 methyl quinoline methochloride

The authors and J. F. Dobson, who contributes an addendum to the papers, emphasise the difficulty of assessing the value of an antiseptic. There is no satisfactory bacteriological test; the method of taking swabs has been tried, growing cultures at intervals, and counting the number of colonies per unit field; but there are many fallacies and drawbacks in this method. Practically speaking, the only method is to judge the antiseptic on the clinical results obtained, and to compare the results with those obtained when using other antiseptics. The conclusion drawn from the experiments carried out, however, is that 48 S is worthy of an extended trial.

PHOTOGRAPHY

Desensitising.—Frances M. Hamer ("Photographic Journal," November 1929) shows that the suggestion that pinacryptol green and safranin are more effective desensitisers when added to the developer must be rejected, so far as Ilford special rapid and Ilford special rapid panchromatic plates are concerned when used in conjunction with M.Q. developer. The amount of desensitiser which can be added to the developer is limited by the tendency of the latter to precipitate the desensitiser, whereas there is no such disadvantage connected with the use of the desensitiser as a preliminary bath. The latter method is also more economical. For these reasons the use of the desensitiser in the form of a preliminary bath is preferred to employing it as an addition to the developer.

Reversal of Ciné Film.—A. Seyewetz, in a paper presented at the Congress of Industrial Chemistry, Barcelona, 1929, states that among the various developers tried, paramidophenol, in the presence of caustic potash, gives the best results, the formula being as follows:—

Paramidophenol hydrochloride	...	14 gm.
Caustic potash	...	60 gm.
Potassium metabisulphite	...	72 gm.
Water	...	1000 c.c.

The speed of development is about twice that of paraphenylenediamine. As a guide to development it is suggested the average time required is two and a-half minutes at a temperature of 18-20° C., when using the concentrated solution, or five minutes when diluted with an equal volume of water, and seven minutes with twice its volume of water.

A Delicate Test for Hypo.—E. E. Jelly and W. Clark (Communication II 419, Kodak Research Laboratories) describe a modification of Freigl's azide test which

they state renders it specific for thiosulphates. It indicates the presence of 0.000007 mg. of the crystalline substance. In D. and P. practice, the iodine-starch-azide stock solution is added to about 200 c.c. of water in such a quantity that the mixture is strongly blue in colour. About 1-2 c.c. of stock solution is usually required for this. For large amounts of the stock solution, the following procedure is recommended:—

Solution A				
Iodine	...	...	...	100 gm.
Potassium iodide	...	...	...	100 gm.
Water	...	...	...	to 250 c.c.

Solution B				
Sodium azide	...	...	...	100 gm.
Water	...	...	...	to 1,000 c.c.

200 c.c. of water is brought to the boil, and a cold water suspension of 6 gm. of soluble starch is added. The starch solution is cooled and diluted to about 800 c.c., after which 3.25 c.c. of iodine solution A is added, followed by 13 c.c. of azide solution B. The volume is then completed to 1 litre. This stock solution is quite stable. For use 1-2 c.c. is diluted to about 200 c.c. with water. This test possesses the following advantages over the permanganate test:—It is more delicate; the colour change is immediate; the colour change is from blue to colourless.

VETERINARY MEDICINE

Magnesium Sulphate Treatment of Tetanus.—J. Chowdhury ("Veterinary Journal," October 1929) describes the treatment of a monkey showing symptoms of tetanus on the lines recommended by Captain Dawson for horses. Saturated solution of magnesium sulphate 2½ c.c. was injected twice daily. After six injections the number per day was reduced to one and the animal soon returned to normal. No anti-tetanic serum was injected.

Contagious Granular Vaginitis.—J. L. Perry ("Veterinary Record," November 16, 1929) describes how he successfully dealt with an outbreak of this disease. The treatment which was most successful was swabbing out the passage with chinosol solution, and then inserting silver nitrate pessaries. These latter were the size of half a black lead pencil, and when placed well up against the os uteri, retained their position well until dissolved. The disease can be confounded with vesicular coital exanthema (bull-burn), as the period of incubation is the same in each complaint—two to six days—and the means of transmission from animal to animal are the same, but the essential difference is, firstly, that whereas the granular form may be troublesome to eradicate, ordinary bull-burn is said to cure itself in a week or two.

"Blows" in Pigs.—H. G. Lamont ("Veterinary Record," November 16, 1929) states that "blows" may be defined as a disease or diseases of swine in which the chief clinical symptoms are a marked heaving action of the flank muscles and a greatly increased rate of respiration. These easily-noted symptoms have given rise to other popular names such as "thumps," "pants," "heaves," and "coughs and blows." Apart from the disease produced by worms, the condition is neither infectious nor contagious. It bears no relation to swine fever or swine plague. Available evidence points to the view that the condition is primarily due to anæmia, and that the lesions found on post-mortem examination are sequelæ, arising mainly from the chronic, inflammatory condition set up by the dropsical effusions which are an early and prominent feature of the disease. The cause of the anæmia is obscure; suggested causes are: (1) Lack of exposure to sunlight or daylight; (2) iron deficiency in the diet, and (3) vitamin deficiency. The best results in treatment obtained by the author followed the use of potassium iodide in daily doses of 10 grains, and the provision of a few ounces of iron oxide in a small trough accessible to the young pigs. The sow's udder was also occasionally sprinkled with this agent. Cod-liver oil was given in daily doses of one teaspoonful. Exposure to direct daylight or sunlight was insisted upon, whenever practicable.

As I See You

By "Mrs. Pharmacist"

ONE of the earliest things I learnt about chemists was that they were of two kinds—those who had qualified by examination and those who were exempted because they had been engaged in the business before the Act of 1868 was passed—and it will be admitted that I was not misinformed. Perhaps the impression given me by my brother when he passed the Minor, that on that account he in himself constituted a third, was not so accurate—but let that pass. Even he has changed his mind since.

The pre-sixty-eight chemist to whom he was apprenticed was a worthy alderman of the borough. If I must tell the truth (and my natural bias that way has been confirmed by association with a craft consisting almost entirely of George Washingtons), he was of a rather irascible temperament. There was a genius on the staff of the local paper who was fond of describing the meetings of the council as if they were those of the Roman Senate, and who referred to him as X—itus, adding on one occasion "who maketh pills, also much noise." He prided himself on his neat calligraphy, and often, when about to write a beautifully neat label, there would be an outburst of language more expressive than elegant on discovering that an obtrusive hair had deftly insinuated itself (?) into his special nib. This was not the only means which his ingenious apprentices adopted to fulfil their considerate desire to banish monotony from his life. For another they enlisted the services of the side-door bell. This acquired an annoying habit of ringing at inconvenient times, which was attributed to mischievous urchins. It reached such a pass that the old gentleman would stand by the door, holding the handle in readiness to open it at the first tinkle, but he would find—nobody. I will not go so far as to say that he was so mystified as to suspect supernatural agencies. But, to the day of his death, he never knew that there was a worn and broken board behind the counter, so that the wire could be reached with a pair of forceps and pulled, setting up the ghostly tintinnabulation. However, when it became monotonous the fertile brains of the two miscreants prompted them to vary their kind attentions.

BUILDING UP A BUSINESS

In due course my brother became a fully-fledged chemist. That's putting it appropriately, as he was always fond of keeping birds and feathered fowls. Then he spent a lot of time and trouble looking about for a business, but had no luck. Finally he had a brain wave, and conceived the brilliant idea of making the necessary alterations in the house next door, which happened to be empty, and building a business up for himself. He still lived at home as long as he remained single, so we not only continued to enjoy his charming company, but also his pathetic lamentations of his hard lot and the niggardly way in which an ungrateful public remunerated his valuable services. In spite of this, he seemed to flourish, and was always able to engage a *locum* and take a holiday every year. This *locum*, by the way, was an amiable, bald-headed, old gentleman, and we youngsters (have I mentioned that my brother was considerably our senior?) took the fullest advantage of his good nature and patience, virtues which long acquaintance with pharmacy had developed highly. One of his first customers was an urchin, impressed by us into the service in consideration of a cash payment of one halfpenny, who asked for a pound of potatoes. He was told to "tell Miss —, with my compliments, that they are not dug yet, but I've got some excellent rhubarb, and if she comes in I'll give her a good strong dose gratis." (This kind offer was not accepted.) Another time we made a bundle of broomsticks, walking sticks and all the sticks we could lay hands on and sent them rattling down the stairs. Out rushed the good old gentleman intent on rendering first aid, but catching sight of the grinning faces looking over the banisters his consternation changed to awful threats of powders, castor oil and nauseous medicines galore.

This good gentleman slept away from the business, and so missed another little incident which by telling and retelling has become one of the family traditions. I doubt whether even the Zeppelin raids of a few years later caused more excitement. One night we were roused from our slumbers by a terrific peal at the bell, and on opening the window we were hailed by a policeman: "'Ere, mum, do you know that your shop window has been broke?" Result, immediate consternation and everyone stampeding about in the airy garments (more or less supplemented) usually associated with tired Nature's sweet restorer. The stalwart representative of the law was admitted, and, secure under his protection, we assisted in searching the premises. Every nook and cranny, including the nests of drawers, was closely inspected, and, the noise having by this time penetrated the attic, the search party was reinforced by the maid, who, fearing a violent death by fire, made her appearance armed with the water jug as a suitable weapon with which to attack the devouring element. All this, however, was but love's labour lost, as by that time the villain of the piece was committing further drunken misdemeanours some distance away, where he was apprehended.

A FEW SPECIMENS

It was during one of these holidays that my brother met the charmer who agreed to take him for better or worse, so, of course, that led to a change in his domestic arrangements. To listen to his perennial grievances and to sympathise with them now became the privilege of the lady of his choice. I'm talking about chemists, not their wives, but I will pay her the compliment of saying that I eventually followed her example, as, when my own turn came a few years later, my choice (not Hobson's, you needn't think it) also fell upon one of that calling with whose virtues I had become so familiar (you need not tell my husband I said so, as I don't want him to get vain). Of course, the pharmaceutical element was evident in our wedding. Apropos of matrimony, I met a hospital pill-puncher a few months ago, and congratulating him on his engagement, asked if his fiancée were pretty. I knew that he has absolutely no sense of humour, but was surprised to hear, even from him, the grave reply, "Well, no, not exactly pretty—but very nice." Another time, when a local pharmacist had been blessed with a daughter he kindly decided to give her a little present. Result, the fond parents received a child's hair brush and comb in a box bearing the name of Blank's Drug Stores, Ltd. In fact, everyone, including the gentleman to whom he was apprenticed, always indulges in a smile whenever his name is so much as mentioned. At the same time, it is only fair to remark that his two years as a prisoner of war doubtless intensified his eccentricities. Then there is a gentleman exuding dignity and erudition from every pore, who presides over the pharmaceutical studies at the technical college; and another amiable worthy for whom I have a great liking except when he asks me to dance with him, and then it is only my toes which protest against his unwieldy avoirdupois. Yet another, who, according to my husband, is a hundred-per-cent, scallywag, told me in a very boastful tone that he was "looking about for a nice little place with a good garden, about a couple of thousand, don't you know."

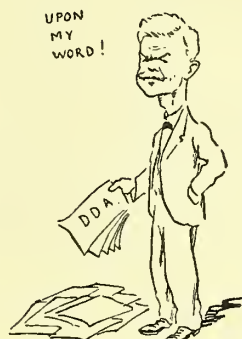
Some have imaginary grievances, some have real ones. Some have been visited by death, others by illness or accident, or have suffered financial or matrimonial troubles. One bought a new car and started off for a holiday, and when near his destination charged a brick wall (from which he was repulsed). All, it seems to me, have a common grievance in the D.D.A. and N.H.I., which I hear so frequently discussed and as frequently anathematised. To sum up, my worthy friends, my observations of you with all your faults and virtues leads me to the conclusion that if, after your trouble in qualifying, you are content to do so much service for such infinitesimal recompense, you must either be philanthropists pure and simple, or you do not do justice to yourselves—or possibly both. I have made your acquaintance, and I exercise the proverbial privilege of my sex, and say this as my last word.



THE PRIME MINISTER —
To keep a sharp eye on the
activities of the Bureaucrats.



THE WAR MINISTER —
To grant Commissions
to Army Pharmacists.



THE HOME SECRETARY —
To overhaul the D. D.
Regulations.



INSURANCE COMMISSIONER —
To increase the Drug Fund.



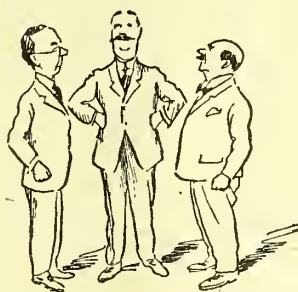
DEPARTMENTAL COMMITTEE ON POISONS —
To come to a decision before 1950.



PROVISION MERCHANT —
To stop selling things he
doesn't understand.



HOME OFFICE EXPERT —
To temper zeal with
commonsense.



PHARMACEUTICAL COUNCILLORS —
To stiffen their backs in dealing
with Government Departments.



CHEMIST-OPTICIAN, M.P.S., M.I.C.O., F.N.A.O.,
F.S.M.C., F.B.O.A., F.I.O., J.C.R.O., ENZ.CO.H., R.I.P.,
To be economical in the use of the Alphabet.

Granville Shaw
1929.

Births

Notices for insertion in this column must be properly authenticated.

NAYLOR.—At 170 Vesper Road, Kirkstall, Leeds, on December 22, the wife of Charles E. Naylor, chemists' valuer, of a daughter

Marriages

STURTON—WILMOTT.—At Chiswick, London, W., on December 15, Geoffrey Ainsworth Sturton, M.P.S., only son of the late Mr. Samuel Ainsworth Sturton, Ph.C., 93 Airedale Avenue, Chiswick, to Lilian Wilmott, elder daughter of the late Mr. N. J. Wilmott, Bognor Regis.

Deaths

DAVIDSON.—On December 17, Mr. James Davidson, F.I.C., for forty-five years analyst to the Dumfries-shire and Maxwelltown Water Commission and other public bodies.

DOUGHTY.—At Shenstone, Blyth Road, Bromley, Kent, on December 12, Mr. Thomas Doughty, chemist and druggist, aged eighty-four.

ETIENNE.—At Roermond, on December 9, Dr. Nicolas Francois Etienne, for twenty years chief chemist of the N.V. Chemische Werken Roermond, H. Raab & Co., aged sixty-five.

FERRIER.—At St. Peter's Hospital, London, W.C.2, on December 10, Mr. James Ferrier, chemist and druggist, eldest son of Mr. W. M. Ferrier, chemist and druggist, Brechin.

HEYNES.—At 47 Cowley Road, Mortlake, London, S.W., on December 4, Mr. William Henry Heynes, chemist and druggist, late of Maidenhead, aged seventy-eight.

MAKEPEACE.—At Coventry, on December 19, after a brief illness, Alderman Alfred Joseph Makepeace, L.D.S., chemist and druggist, Mayor of Coventry, aged sixty-four. Alderman Makepeace passed the Qualifying examination in 1886, and after studying dental surgery at Guy's Hospital, London, S.E.1, commenced practice in Coventry, of which city he was a native, in 1893. He became a member of the Corporation in 1910, and an alderman in 1923. Alderman Makepeace, who was in his second year of office, is survived by a widow.

Personalities

MR. BERNARD FREEMAN, chemist and druggist, 49 Leicester Road, Higher Broughton, Manchester, has passed the Fellowship examination of the British Optical Association.

At a recent meeting of the Provincial Grand Lodge of Bedfordshire the M. Wor. Bro. Lord Amphil, Pro. G.M., Prov. G.M., invested W. Bro. G. Turner, chemist and druggist, Biggleswade, as Prov. G. Senior Warden.

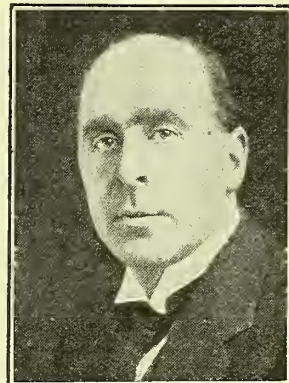
MR. E. T. NEATHERCOAT, C.B.E., J.P., member of the Council of the Pharmaceutical Society, has lately addressed a number of meetings in the Cardiff South parliamentary division, for which he is the adopted Conservative candidate.

MR. A. R. G. CHAMINGS, B.Pharm., Ph.C., delivered an interesting lecture (illustrated by lantern slides) on "Drugs in Everyday Life" at the Leicester College of Technology (where he is head of the pharmacy department) on December 11.

MR. W. B. TRICK, founder of Lewis & Burrows, Ltd., who when a boy came to London in the year 1866, has just entered his eighty-fourth year. Mr. Trick has been a pharmacist for sixty-five years; he is an alderman and ex-Mayor of Stoke Newington, a mason of fifty-two years' standing (a member of the Grand Lodge of England), and a magistrate for the County of London.

MR. S. W. HAGUE, chemist and druggist, Cardiff, vice-chairman of the Local Executive Committee of the British Pharmaceutical Conference, 1930, was

born at Lincoln in 1881, and apprenticed to his brother, Mr. J. Hague, of that city. Afterwards he became assistant to Mr. Charles Fargher, chemist and druggist, Cardiff. After passing the Qualifying examination and having further experience in London, he settled in Cardiff in 1916, where he has now three businesses. Mr. Hague was Commandant in the British Red Cross Society during the war, and has been secretary, president and treasurer in succession of the local pharmaceutical association. In



MR. S. W. HAGUE

addition to being the first secretary of the Cardiff Branch of the Pharmaceutical Society, Mr. Hague holds a similar office in connection with the Proprietary Articles Trade Association, the group executive of the Retail Pharmacists' Union, and the pharmaceutical advisory sub-committee of the local Technical College. He is also a member of the Pharmaceutical Committee. In civic life he is treasurer of Rumney Ratepayers' Association, and a local councillor. He is Junior Warden of the Caerdydd Lodge of Freemasons. Mr. Hague has also found time to take part in operas, oratorios and private theatricals. Mrs. Hague is vice-chairman of the ladies' committee of the Conference. She was also a Commandant of the Red Cross during the war, a position she still holds, and is chairman of the Women's Institute and vice-president of the Cardiff Branch Conservative Association. Mrs. Hague has raised about £300 also for various nursing homes in the city.

Trade Notes

H.B.T. FLU PILLS is the latest product to be placed on the market by Hunter Beattie, 25 Monteith Row, Glasgow. S.E., and there is a bonus offer in connection with it.

AN ATTRACTIVE SHOWCARD (8 in. by 6 in.), printed in colours, is being issued by Coscutis Co., Ltd., New Bridge Street, London, E.C.4, in connection with their cleansing cream.

THE BUSINESS of Henry Tetlow & Co., manufacturers of Swan Down and other face powders, will in future be dealt with from their own office, 84 Leadenhall Street, London, E.C.3, to which address all communications should be sent.

SEED TRADE.—Bees, Ltd., 175z Mill Street, Liverpool, remind chemists who are interested in the sale of seeds as a side-line that the buying season opens with the New Year, and for that reason they are making a special offer, particulars of which will be found in the advertisement pages.

PRIZES FOR SUGGESTIONS.—Numol, Ltd., Newcastle-on-Tyne, are offering a number of prizes for suggestions as to the best method of encouraging chemists and their assistants to take special interest in the marketing of Numol. An entry form and further particulars will be found in the advertisement pages. The closing date of the competition is January 31, 1930.

HOT-WATER BOTTLES.—In a coloured inset in this issue there is illustrated models of the seamless moulded hot-water bottles manufactured by Seiberling Tyre Co. (Great Britain), Ltd., 146 Tennant Street, Birmingham. The company's products are well known in the Canadian market, and are likely to arouse considerable interest among chemists and the public in this country.

Observations and Reflections

By Xrayser III

Your New "Diary"

comes as a boon and a blessing always, but the latest issue has points which commend it specially to me, as I do not doubt they also commend it to many others who receive it. The chief value of the book, of course, resides in the information it conveys respecting goods and their suppliers. As a means of ready reference for this kind of thing the *C. & D. Diary* is unsurpassed, and I find myself continually making use of it in the course of everyday business on this account. But what may be termed the variable factor in the *Diary*—the literary contents—is on this occasion of an especially appealing nature. I see many opportunities provided for making money in the remarkable section on toilet accessories, surely one of the finest collections of practical formulas that have ever been put together. As a supplement to the new edition of Volume One of "Pharmaceutical Formulas" this section of the *Diary* is most useful, and I anticipate that many of your subscribers will find in it information that will repay their subscription to the *C. & D.* many times over. It seems needless to dwell upon other interesting features of the new *Diary*, but I will conclude this note with my usual advice that a spare hour should be devoted to going carefully over every page of the book, so as to gain a comprehensive knowledge of all the good things it contains.

Proprietary Medicines

are naturally more expensive generally than others, and you do well to point out that their use in National Health Insurance dispensing is not conducive to economy (*C. & D.*, December 21, p. 733). Of the different classes of proprietary articles, I think there is least excuse for the prescribing of secret remedies. Since the actual composition of these is not known, doctors with any regard for their professional reputation ought not to prescribe them, and they certainly should be disallowed if ordered for insured persons. Next on the list of what should be disallowed, so long at any rate as available funds are insufficient to pay all chemists' accounts in full, come proprietary brands of preparations which are either official or official. They may be, in some respects, superior to the non-proprietary preparations, but I have yet to be convinced that chemists should be compelled to keep in stock more than one variety of any particular galenical. Least of all should we be expected to do this for National Health Insurance dispensing purposes. There are, of course, non-secret proprietary remedies for which there are no non-proprietary equivalents, and it is difficult to see how these can be disallowed without infringing the right of insured persons to receive entirely adequate treatment.

Mr. Linstead's Paper

on the employment problem in pharmacy (*C. & D.*, December 21, p. 733) conveys the impression that it is intended to strengthen the case for raising the pharmaceutical Preliminary examination to matriculation standard. I am surprised, however, that the Council of the Pharmaceutical Society should encourage this method of appearing to bolster up a case for which there is justification enough on grounds that are more satisfactory than that of limiting the number of entrants on a pharmaceutical career. Pharmacy cannot afford to lag behind other important professions in its educational requirements, and it ought to be regarded as a foregone conclusion that matriculation standard is our aim in the immediate future. Apart from this, I am not particularly impressed with the facts and figures as presented by Mr. Linstead, who seems to have based his conclusions on insufficient evidence. If this is the best that the Council of the Society can do in the way of conducting an investigation, I would recommend that some more profitable work be found for its office staff.

Limitation of Pharmacies

by Government action is so utterly unlikely ever to happen in this country that I am surprised anyone should waste time in discussing the suggestion. As to restriction of the practice of pharmacy to pharmacists, it would be interesting to know what Mr. Linstead includes in the practice of pharmacy besides the dispensing of medicines. Does he include the supply of toilet articles, sales of which, according to the new *C. & D. Diary* (p. 279), account for 75 per cent. of the chemist's business to-day? Incidentally, Mr. Linstead's estimate of an average of 4,279 persons for each chemist's shop in Great Britain must be assumed to be the number who buy much besides medicine from the chemist. It would, I fancy, require from 15,000 to 20,000 persons to maintain one of us in comfort if our business were restricted to the dispensing of medicines and other purely pharmaceutical functions.

The Article

on "Toilet Accessories" in your welcome *Diary* just to hand provides evidence of the great value attaching to matters of the toilet, and it testifies to the skill and resourcefulness of the chemists who are called upon to produce so great a variety of innocuous agents for cleansing—and beautifying—the person. But not always, and by not all people, even to-day, has it been esteemed a right and proper thing to improve or heighten the features natural to the individual. A curious instance of how a prejudice may be aroused by the practice of employing "toilet accessories" occurs in a piece of classical literature which I should have thought might have been made good use of by some adventurous advertiser of dentifrices. I allude to the "Apologia" of Apuleius of Madaura. Apuleius (who lived in the 2nd century), when comparatively a young man, had dared to marry an elderly lady, Pudentilla, with a fortune. Her relatives were exceedingly annoyed that this clever, sparkling, bright young fellow had walked off with such a prize; and they brought him before the courts on a charge of practising magic, asserting that he must have bewitched her, seeing that she was sixty years old; but Apuleius proved she was only forty. One of the chief grounds upon which his enemies based their charge was that he cleaned his teeth.

Wit and Sarcasm

were, perhaps, never more happily reinforced by rhetoric than in this defence by Apuleius, of which the section dealing with the cleansing of his teeth is typical. He says:—"I perceived just now some who could hardly control his laughter, when the orator [the opposing advocate] inveighed with such asperity against cleaning of the teeth, and pronounced the word 'dentifrice' with more indignation than anybody else would speak of poison. And why should he not? No doubt it is a crime not to be overlooked in a philosopher, if he is particular in his precautions against dirt; if he allows no part of his body that is exposed to view to be unclean, the mouth especially, which man makes frequent use of openly and conspicuously; whether he kisses another, or discourses on any subject, or lectures before an audience, or repeats his prayers in a temple. For so it is that words precede every act of mankind. . . . If you could at the present day produce any one gifted with powers of utterance so grand as those with which he [Homer—whom he has been quoting] was endowed, he would declare in his usual manner, that from him above all men who has any care for the art of speaking, the mouth requires more sedulous attention than all the rest of the body, seeing that it is the vestibule of the mind, the gateway of speech, and the outer court of the thoughts. At all events, according to my way of thinking, I should say that nothing so ill becomes a man who is of free birth and liberal education as inattention to the appearance of the mouth. For this portion of the person is elevated in position, exposed full in view, and in continual use" [Bohn's Eng. Ed.]. It would appear that Apuleius was probably acquainted with myrrh as an ingredient in dentifrices, for he speaks of having supplied a friend with a dentifrice containing "Arabian produce," which would most likely include myrrh.



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Editorial Articles

Sale of Medicated Spirits

We have to announce an important concession granted by the Commissioners of Customs and Excise in respect of the sale of medicated spirituous preparations by vendors other than pharmacists. The concession is in the following terms:—

79821/1929

Custom House, London, E.C.3.
December 19, 1929.

SIR,—I am directed by the Commissioners of Customs and Excise to refer to the paragraph G.R. (14/10) under the heading "Legal Queries" on page 602 of your issue of November 16, in which it is stated that "any person other than a chemist who wishes to sell spirituous medicinal preparations is required to hold an Excise licence to sell spirits by retail and in addition a justice's licence."

The question of the Excise licence required for the sale of medicated spirits has recently been reviewed and the position is now and will in future be as follows:—

Bona-fide medicated spirituous preparations may be sold by chemists or by ordinary shopkeepers and other persons without the holding of an Excise licence to sell spirits, provided:—

- (i) the preparations contain a medicinal substance in such proportion as, in the opinion of the Commissioners of Customs and Excise, gives them a distinct medicinal character and makes them unsuitable or too unpalatable for use as beverages;
- (ii) that the directions as to dose, etc., on the labels of the bottles or other containers indicate to the satisfaction of the Commissioners that the preparation is intended for use as a medicine and not as a beverage.

In any case of doubt whether a particular medicated spirituous preparation complies with these conditions, inquiry should be made of the local Surveyor of Customs and Excise.

I am to add that a person who desires to sell medicated spirituous preparations which do not comply with these conditions must hold an Excise licence and also a justices' licence.

I am, Sir,

Your obedient Servant,

C. E. I. FLETCHER.

The Editor,

THE CHEMIST AND DRUGGIST,

42 Cannon Street, London, E.C.4.

Having regard to the explicit provision for doubtful cases, we presume that unqualified shopkeepers will seek official advice before committing themselves to courses of action that may turn out to be illegal.

Marking Time

THOUGH the year now drawing to a close has been marked by progress in many directions, in the world of pharmacy as elsewhere, there is one direction in which we are still unable to report progress, or indeed activity of any kind. It is three years since we first had occasion to refer in our annual survey to the inquiry being conducted by the body known familiarly as the Poisons Committee, and we are still in the position of knowing with certainty little or nothing about its deliberations or their outcome. Rumour has, of course, been busy during the three years, and many months have elapsed since the taking of evidence by the Committee was understood to have ceased. But it has repeatedly been stated that no report had been agreed upon, and we have yet to learn that any report has been signed and presented to the Lord President of the Council. Until that is done, it is unlikely that anything will be known with certainty regarding the outcome of the Committee's deliberations. Meanwhile, we have been at pains to explain what, in our opinion, is wrong in the existing system of dispensing medicines and distributing poisons (*C. & D.*, November 16, p. 586); also that some change in the system is imperatively called for, not only in the public interest, but equally in the interest of the Pharmaceutical Society and of chemists and druggists generally. Pending the receipt of definite information concerning any decision arrived at by the Poisons Committee, quiet but steady progress has been made in

REPRESENTATION IN PARLIAMENT

preparing to resist attacks upon the ancient rights and privileges of chemists and druggists. More, by supporting the sending of Mr. W. Bennett to the House of Commons, first at a by-election and later at a general election, an important step has been taken by chemists and druggists in the direction of making proper provision for pushing their claims when necessary. At the general election, opportunity was provided the Pharmaceutical Parliamentary Fund Committee for a trial of its strength and skill. A fairly large supply of money was available, and assistance was afforded in the case of several candidates. None was successful except Mr. Bennett, but it is claimed on behalf of others that the way has been prepared for better luck next time. Obviously, however, further supplies of money will be required to replenish the much depleted Parliamentary Fund, and a report by the Committee administering the Fund concluded with an appeal for continued financial support. Another general election may be sprung upon the country at any time, and the best method of insuring against not being properly represented in Parliament would appear to be that chemists and druggists should act upon the principle of subscribing early and often to their own fighting fund. Our New Year greeting for 1929 emphasised the necessity of being prepared, and provision of adequate supplies of the sinews of war suggests itself as the readiest method for individual chemists and druggists to make preparation either for attack or defence. But backing of individual effort by the Pharmaceutical Society is also requisite. Up to a point such backing is being furnished; but we again direct attention to the need for the appointment by the Society of a Parliamentary secretary. Whatever difference of opinion there may be as to the value of the services rendered to the drug trade by the late Sir William Glyn-Jones, those who are competent to decide agree that his labours as Parliamentary secretary were probably the most fruitful for our business. He ought to have had a successor in the post, even during his own lifetime, and it seems to us imperatively necessary that a successor should be appointed now. In other ways the Council of the Pharmaceutical Society has made marked progress during the year. First and foremost it has assisted in com-

pleting the arrangements for getting the Pharmacopœia Commission set up. The Commission is now hard at work, with Dr. C. H. Hampshire as its secretary, and every prospect of being able to produce a better British Pharmacopœia than any preceding one. The Society has offered the hospitality of its Codex Research Laboratory to a worker engaged by the Pharmacopœia Commission as a research assistant. An accord has also been established between the Commission and the Society in respect of the British Pharmaceutical Codex, which is apparently to be produced in future on concordant lines with the British Pharmacopœia. Reciprocity with Northern Ireland became at last an accomplished fact, after a special Pharmacy Act had been passed in order to remove certain disabilities. A scientific conversatione in the Society's house, reminiscent of those held there years ago, was a pronounced success, and added to the satisfaction of members of the Society at the progressive manner in which their affairs were being conducted. At the annual meeting a cheerful and encouraging report was again presented. All the retiring members of Council were returned with substantial majorities, in spite of a determined attack by an exceptionally large number of other candidates. Mr. L. Moreton Parry was elected president at the June meeting of the Council, with Mr. A. R. Melhuish as vice-president, and a well-earned tribute was paid to the wonderful service rendered by Mr. Herbert Skinner during his term of office, a record of achievement which rivals that of any of its predecessors. Both the School of Pharmacy and the Pharmacological Laboratories have continued to expand, and the pressure on space in the Society's premises has led to the seeking of a suitable site on which to erect new buildings. Rumour has it that such a site has been found

A COMING REMOVAL

and secured, and that all the Society's departments will be housed in due course in a handsome and commodious building to be erected at no great distance from the traditional home of the Society in Bloomsbury. At the opening of the new session in October, the inaugural address was delivered by Dr. H. H. Rusby, of New York, to whom the Hanbury medal had been presented just before. The subject of his address was the authentication of materials used in research, and he made it strikingly evident that such authentication is of the highest importance. Professor Ralph Stockman, as Government visitor to the Society's examinations in Edinburgh, presented what we described at the time as a salutary report on the new written examinations. In the course of this he referred to several matters which appeared to him to require amendment, and later he had the support of Sir William Willcox in the report of the latter on the new written examinations in London. An annual report was inaugurated by the board of examiners for England and Wales, embodying a host of useful tips for teachers and candidates. This report furnished further evidence of the unsatisfactory manner in which pharmacy and pharmaceutical chemistry have been studied, especially on the practical side. The long-expected work on "Forensic Pharmacy," by Mr. H. Glyn-Jones, made its appearance early in the year, and the "Quarterly Journal of Pharmacy and Pharmacology" has continued to expand under its lengthened title. Scottish affairs have received adequate attention from the Executive of the Society's North British Branch, and there have been excellent evening meetings both in London and Edinburgh. Financially, the Society has continued to flourish, in spite of largely increased outgoings; but there seems to be room for improvement in connection with the Benevolent Fund, subscriptions to which are on a less generous scale than the object in view deserves. The British Pharmaceutical Conference was held in Dublin, with Mr. R. R. Bennett again in the chair. His address on this occasion dealt with the changing

foundations of materia medica, as illustrated by the striking changes wrought by progress in chemistry, biochemistry, physics and physiology, and in the science and practice of medicine. The papers contributed to the Conference were of a useful type generally, with one or two of outstanding merit. Interesting papers were also read at the delegates' meetings held during Conference week. On the social side the proceedings were most successful, the pharmacists of Dublin and other parts of the Irish Free State having risen to the loftiest heights as hosts. Both the Pharmaceutical Societies in Ireland have continued to prosper. So far, the Pharmaceutical Society of Ireland remains with its constitution unaltered pending the passing of the long-promised Pharmacy Bill. Mr. F. J. Fitzpatrick has been elected for a fourth year as president of the society, with Mr. D. J. Nugent again as vice-president. Mr. Fitzpatrick's services to Irish pharmacy, particularly in connection with the entertainment of the British Pharmaceutical Conference, was recognised by a notable banquet and presentation. The Pharmaceutical Society of Northern Ireland now has Mr. Fred Storey as president in succession to Mr. W. J. Hardy, who signalled his term of office by successfully negotiating the reciprocity agreement with Great Britain. All the trade organisations in Great Britain and Ireland have been actively engaged in the endeavour to improve business conditions. Co-operative attacks on price maintenance have required attention, while the cutting of prices of proprietary articles has tended to increase. Foods and toilet articles seem to offer the greatest incentives to cutters, and cases involving the cutting of such goods appear to be the most difficult to deal with. The drug fund sufficed to pay the chemists' National Insurance bills in full for the year 1928, with an excess of about £40,000 available to wipe off part of the deficit of the year 1927; but the omens are not propitious for the current year, and there will probably be further discounting to vex the souls of chemists on the panel. A National Insurance Formulary has been introduced in the hope that it will help to reduce the demands on the drug fund. Unfortunately, it is a poorly compiled production and has met with a small storm of criticism. Its demerits appear to be mainly due to the fact that it is essentially a medical production, and it is, of course, well known that no compilation of the kind required can be produced satisfactorily without the active co-operation of pharmacists possessing the necessary experience. Another effort to effect economy in prescribing took the form of a Drug Advisory Committee, set up by the Ministry of Health with the object of assisting Insurance Committees to proceed on uniform principles in dealing with questions of difficulty as to the definition of drugs and medicines for the purposes of medical benefit. After being in existence for nearly a year, all that this Advisory Committee appears to have to its credit is the presentation to the Minister of Health of a report in which are laid down the lines upon which questions relating to the prescribing of proprietaries should be dealt with. A real economy has been effected by the action of the Board of Customs and Excise in extending the concession of the supply unstamped of dutiable medicines to entire packages when ordered in medical prescriptions. This concession applies equally when the medicine is ordered for insured persons or private patients, and was announced, curiously enough, some time after a contributor to THE CHEMIST AND DRUGGIST (April 6, p. 410) had pointed out how the Government was actively engaged in purchasing patent-medicine stamps issued by one of its own departments. Some loss of revenue as the result of the concessions seems inevitable, and further loss, probably of a more serious

character, is to be anticipated because of the growing tendency to remove proprietaries from the category of dutiable medicines, by the simple expedient of altering the style under which they are offered to the public, and taking advantage of the "known, admitted, and approved" exemption. It will be unfortunate if the tendency in this direction should encourage any suggestion of legislative interference with the chemists' privileges under the Medicine Stamp Acts; but loss of revenue cannot be regarded with equanimity by the British Government at the present time, and revision of the existing system is not outside the bounds of probability. The British patent system has been the subject of a valuable report by a committee of the British Science Guild. A model of practical and lucid expression, the report contains important recommendations concerning details of procedure in relation to applications for, and the grant of, letters patent. A few of the committee's suggestions introduce principles that are entirely new so far as British practice is concerned. These include a proposal that there should be introduced in this country a system of "short term patents," analogous to what obtains in Germany. In our opinion, the introduction of these minor patents would be both popular and beneficial. Attention is also directed in the report to the urgent necessity in patent legislation of recognising more fully the progress of scientific discovery, notably in the realms of chemistry and biology. The British Industries Fair was held at the White City early in the year and attracted large numbers of home and foreign buyers. A noteworthy incident at the opening ceremony was a speech by the Prince of Wales, who pointedly asked whether the salesmanship of this country was up to the standard of the workmanship of the men. Later in the year came the North-East Coast Exhibition. This was opened by the Prince, and afforded exceptional opportunities for gaining closer acquaintance with the latest developments in British industries generally. The fifth International Congress of Military Medicine and Pharmacy was held in London. Some hundreds of delegates attended from many countries, and the proceedings included a meeting at the headquarters of the Pharmaceutical Society. It was painfully evident in connection with the Congress that pharmacy as a profession is accorded no recognition by the military authorities in this country, and the proceedings closed without any prospect of improvement in this direction. The King's illness was the cause of grave concern during the early months of the year, and pharmacists, in common with all other sections of the community, were alternately alarmed and gratified, as depressing or cheerful bulletins were issued in turn. Fortunately the team work of medical men and nurses proved entirely successful, and the nation now rejoices in the thought that its constitutional head is fully restored to health. The devotion of the King's doctors and nurses was fully recognised in due course, and it is gratifying to be able to record that the pharmaceutical skill which contributed materially to His Majesty's recovery was also recognised by inclusion in the list of birthday honours of the name of Mr. William Smart Boyack, managing director of Squire & Sons, Ltd. At an earlier date a peerage had been conferred upon Sir Jesse Boot, Bt., in recognition of his services to the cause of university education. Progress in pharmaceutical education was recognised in a more homely way at a delightful ceremony on the occasion of the "coming of age" of Mr. H. Humphreys Jones, F.I.C., Ph.C., as principal of the Liverpool School of Chemistry and Pharmacy. The three-hundredth anniversary of the granting of a charter to the Worshipful Company of Spectacle Makers was celebrated by an optical congress and trade exhibition. Another twenty-first anniversary recorded was that of the passing of the Poisons and Pharmacy Act. This coming of age brings mixed feelings, as we are conscious of so many

deficiencies still existing in the system under which chemists and druggists labour, and there appears to be no immediate prospect of their removal. Increase in restrictive regulations, has continued to add to the difficulties experienced in carrying on the business, one most marked instance of this being the further restriction upon the supply of heroin when ordered in prescriptions. Medical practitioners are agitating at the present time for relaxation of this irksome restriction, and we have been at pains to point out that means exist for meeting their wishes in the matter. The Budget might have brought some modest consolation to chemists and druggists, but failed to do so, and there seems to be little prospect of the next Budget bringing any relief from unduly onerous burdens. Meanwhile we have laboured constantly and consistently in the endeavour to alleviate and improve the position of chemists and druggists as a class. The seventieth anniversary of the appearance of the first issue of THE

OUR
SEVENTIETH
ANNIVERSARY

CHEMIST AND DRUGGIST afforded an opportunity of emphasising the fact that the highest compliment paid us, and that not an infrequent one, is the remark that we give our readers what they want. Our aim is not to surmise what ought to be wanted, but rather to meet the needs of the situation as they arise and then to give our best. No better illustration of this can be referred to than our annual Special Issue, in which so much space was devoted to practical business needs, in addition to contributions appealing to the literary and artistic tastes of our readers. Then, in our special Educational Number, we supplemented the usual mass of information supplied for convenient reference by a clear and explicit account of what the Pharmaceutical Society's new examination requirements involve. We have discussed and encouraged others to discuss the problems arising for solution in connection with the development of chain-store and bazaar trading. Encroachment upon the business of chemists and druggists is proceeding, slowly but without cessation, and one of the main objects we always have in view is conservation of the legitimate interests of what it is now becoming customary to call the independent chemist and druggist. In our opinion, one of the worst things that could befall the British public would be the extinction of the individual keeper of the chemist's shop, and we are not disposed to admit that there is even a remote prospect of anything of the kind happening. But we must again emphasise the necessity of looking ahead and being prepared to adapt the chemist's business to changing circumstances. Pharmacy Week was a notable attempt to convince the British public that the chemist and druggist is much more than a mere trader. It is gratifying to know that the attempt was successful on the whole and that there is every encouragement to repeat the experiment next year. Our view remains unchanged, however, that the mistake should not be made of losing the reality in the attempt to capture what may prove elusive. In other words, the business of the chemist and druggist, carried on under that designation, should not be subjected to the risk of depreciation and loss in the hope of establishing a claim to a possibly non-remunerative professional status. Among our contributions to the movement for improving the business of chemists and druggists reference may be made to the series of articles on book-keeping and settling in business, instructive monographs on such subjects as the making of solid spirituous preparations, the publication of a new and enlarged edition of Volume One of "Pharmaceutical Formulas," and last but not least the gift to our readers of the *Chemist and Druggist Diary* which we believe to be an advance upon any of its predecessors. In addition, we have made a point of recording all the world's doings which appeared to possess any interest to pharmacists. Lord Hewart's protest against growth of "the New Despotism" has been echoed in our pages; we have

closely followed Merchandise Marks Acts prosecutions, and advocated standardisation in the matter of articles not included in the British Pharmacopœia; the slow process of accumulating funds for the Glyn-Jones Memorial has been commented upon and encouragement given to the efforts made to increase the amount subscribed to a reasonable figure; the passing of the South African Food and Drugs Act has received due notice; and we have given full prominence to the subjects of the new Companies Act, the sale of spirituous medicines, and the interest of chemists in the proceedings of the Licensing Commission. Noteworthy events which have been reported in our pages have included the opening of the Benger Laboratories for pharmacology and pharmaceutical chemistry; the presentation of a well-earned testimonial to Mr. Joseph Moffett, of Belfast, shortly before his much lamented decease; the publication of a new edition of the second volume of Martindale's "Extra Pharmacopœia"; and the first presentation of the gold medal struck in memory of the late A. W. Gerrard. Finally, our news service has included particulars of the losses pharmacy has sustained by death.

OBITUARY

The mournful list has been all too long, with many well-known names to distinguish it. Mr. G. B. Francis was a former director of The British Drug Houses, Ltd., and his death breaks one of the links with a period when his was one of many outstanding personalities; Mr. W. J. Rankin, Belfast, was formerly prominent in the pharmaceutical affairs of Northern Ireland, as was also Mr. Joseph Moffett, to whom reference has already been made; Mr. Isaiah Bourdas was prominent in London pharmaceutical circles for many years; Mr. E. Alfred Webb was at one time deputy chairman of Evans Sons Lescher and Webb, Ltd., and a leading authority on the buying of drugs; Mr. T. B. Blunt, Shrewsbury, ranks as one of the earliest investigators in radiotherapy; Mr. George Roe had contributed to our columns practical notes on dispensing which were much appreciated; Mr. Oswald A. Reade, Lowestoft, made his reputation as a dispenser in the Navy, but was also a keen botanist; Mr. J. T. Barrett will be remembered for his interest in municipal affairs in Leamington and for his subsequent connection with the Western Pharmacists' Association of London; Mr. F. W. Thompson was head of the pharmacy department of Leicester College of Technology; Mr. W. N. Allen, a past-president of the Pharmaceutical Society of Ireland, wrote an article on the history of the Society for the *C. & D.* three years ago; Mr. F. F. De Morgan was a distinguished scholar and pharmaceutical teacher; Mr. W. P. Parry had enjoyed the privilege of close friendship with the late T. H. W. Idris and the late Charles Umney, and successfully carried on the business of Bartlett, Hooper & Co., for more than forty years; Sir R. Woolley Walden was formerly Mayor of Westminster; Mr. W. H. Perkin, Professor of Chemistry in the University of Oxford, had a remarkable record as an investigator, and text-books written by him, in collaboration with Dr. Stanley Kipping, were familiar to many students; Mr. Robert Cummings, a native of Perth, died at Cape Town after a successful business career there and at Johannesburg; Mr. William Duncan succeeded Mr. J. Rutherford Hill at the Edinburgh Royal Dispensary and trained many students; Mr. J. A. Woodside was well known throughout Ulster and other parts of Ireland; Dr. S. Rideal is remembered as the first president of the Society of Public Analysts; Mr. F. A. Hocking was chief pharmacist at London Hospital; Mr. J. J. Forbes, of Perth, had been a member of the North British Executive of the Pharmaceutical Society; Mr. H. R. Arnold was governing director of Burgoyne, Burbidges & Co., Ltd.; Mr. A. T. Ferrall long held the position of registrar to the Pharmaceutical Society of Ireland; Mr. G. F. Barratt earned distinction as a rifle shot in London pharmaceutical competitions; Mr. W.

Arkinstall was at one time in business in London and an examiner of the Pharmaceutical Society; Professor R. J. Harvey Gibson, Edinburgh, was also a former examiner of the Society; Mr. J. Gilbert Jackson helped to build up Ucal; Mr. J. A. Jennings had been pharmacist to St. Thomas's Hospital, London, and one of the Pharmaceutical Society's examiners; Mr. J. G. Netting was first president of the Plymouth and District Association of Pharmacists; Miss Annie Neve was one of the first women pharmacists to be added to the Register of Pharmaceutical Chemists. Among others, our obituary list also includes the following:—Mr. W. J. Bowis, Nottingham; Mr. H. W. Quelch, London; Mr. R. W. Watson, Sheffield; Mr. J. Ferrier, Falkirk; Mr. G. A. Hebblethwaite, Hull; Mr. S. A. Sturton, London; Mr. R. Widdowson, Nottingham; Mr. J. E. Hindle, Blackburn; Mr. J. H. Smith, Newark; Mr. R. Welford, London; Mr. T. Rheeder, Leeds; Mr. J. B. Martin, Helston; Mr. S. P. Lowe, Sheffield; Mr. D. Reid, Exeter; Mr. E. C. Exell, Sheffield; Mr. J. T. Corder, Norwich; Mr. H. A. Roper, Plymouth; Mr. T. A. Matthews, Ross; Mr. W. Bevan, Colchester; Mr. F. Rideal, Glossop; and Mr. W. F. Liddell, for forty years head of the design department at 42 Cannon Street, London, and an artist of considerable attainments.

Pharmaceutical Society of Great Britain Branch Meetings

Cambridge.—The annual general meeting of the Cambridge and District Branch was held on December 12, Mr. J. B. Simmons in the chair. The treasurer reported a favourable balance. The following officers were elected for the ensuing year: *Chairman*, Mr. W. H. Scott (Saffron Walden); *Vice-Chairman*, Mr. J. M. Palmer; *Secretary*, Mr. W. Heap; *Treasurer*, Mr. E. H. Church; *Auditor*, Mr. A. Border; *Committee*, Messrs. A. B. Barnard, S. F. Barker, B. S. Campkin, J. Evans, F. E. Harris, H. F. Hayllar, E. E. Orange, J. S. Milbank, and L. Skinner. The retiring chairman, after a short address, presented to the secretary as a wedding present a token of the members' appreciation in the form of a bureau. The secretary briefly acknowledged the gift. Mr. E. H. Simmons, member of the Society's Council, in an address on *Anticipated Legislation Affecting Pharmacists*, stated that he had hoped that the Committee of Inquiry would, before this, have issued its report. From 1868 onwards the responsibility had been divided between the Society and Government Departments. He suggested the establishment of a single authority to administer the laws relating to the sale and control of scheduled poisons. Mr. Simmons hoped that in future it would be illegal for wholesale transactions to take place with unqualified retailers. This led to the suggestion that any future Pharmacy Bill ought to contain a clear and concise definition of what constitutes carrying on the business of a chemist and druggist. The speaker also dealt with the indiscriminate sale of potent substances at present outside the Schedule, and urged the importance of further representation in the House of Commons. In the discussion which followed Messrs. Turner, J. B. Simmons, Campkin and Palmer asked questions, and Mr. Peck proposed a vote of thanks to the speaker.

Edinburgh.—A meeting of the Edinburgh and South-Eastern Scottish Branch was held in Dunfermline on November 27, Mr. David Harley (Musselburgh) in the chair. The chairman said they were fortunate in having a Dunfermline man, Mr. John Gilmour, to address them. Mr. Gilmour said he had thoroughly enjoyed the experience of acting as a delegate representative of the Pharmaceutical Society at the Dublin Conference. At the very moment of landing, and, indeed, before actually landing, they were met with the first signs of that abounding Irish hospitality which characterised the whole proceedings. To the credit of the Local Committee it could be said that everything passed

off without a hitch. The genial and popular chairman of the Conference, Mr. R. R. Bennett, in his opening address, "The Changing Foundations of Materia Medica," set the tone of the proceedings at a high level, which was maintained throughout. One of his (the speaker's) most vivid impressions of the Conference was the high value of what might be called the unofficial work, the little personal interviews and talks with colleagues which went on. The providing of opportunities for friendly intercourse and other informal discussions and clearing up of difficulties quite impossible in the formal meetings was a fine feature of the social functions. One returned with a wider outlook, a new point of view, a larger sympathy with the other fellow's difficulties, and a fresh feeling of pride in the honour, the responsibility, and the worthiness of their mutual calling. Mr. Thomas Wilson (Burntisland), who was also a delegate at the Dublin Conference, supplemented Mr. Gilmour's report, and said he hoped Mr. Gilmour's reminiscences would induce others to accept appointment as Conference delegates. Questions were dealt with as to what is meant by elixir of luminal, in regard to which it appeared there was considerable ambiguity. A question was also raised as to what is intended by an ester of morphine, and the matter was explained by Mr. D. B. Dott.

London (E.).—A meeting of the East Metropolitan Branch was held on December 5, Mr. H. F. Hodgson in the chair. There was a fair attendance to hear Mr. Thomas Hardy, Maryport (member of Council), give an address on *Members We Do Not See, and Why*. Mr. Hardy prefaced his remarks by giving a few possible reasons why more members apparently did not take much interest in their local pharmaceutical affairs. Perhaps, he said, with the branches of the Society, Retail Pharmacists' Union and local Associations pharmacists were over-organised. In some cases men were single-handed and too busy making money to take interest. Others could not forgo their games. He had recently addressed meetings in the provinces, where they had had wonderful attendances. The speaker then dealt with various Pharmacy Acts. He spoke of the co-operative movement, which now possessed tremendous weight and power, and of other trades who were after the chemists' business. He thought something should be done to safeguard the sale of aspirin and drugs of that nature. Mr. Hardy commended the claims of the Benevolent and Orphan Funds. He hoped the members would consider the subject of the inspection of shops for the training of apprentices. A number of questions were put and replied to by Mr. Hardy, who, on the motion of the vice-president (Mr. C. H. Cooper), was accorded a hearty vote of thanks.

Nottingham.—An interesting lantern lecture was delivered to the members of the Nottingham Branch of the Pharmaceutical Society on December 11 by Mr. A. Nutter Smith, Ph.C., F.C.S. The chair was taken by Mr. A. O. Bentley. The subject was *The Romance of Poisons and Poisoners*. The lecturer showed several illustrations, together with actual specimens of some of the poisonous drugs used from the remote days of the Babylonians and Assyrians down to the present time. The ritual connected with the collection of mandragora was explained. The roots of this plant were dried and sold as charms against sterility, and it is probable that they are still obtainable to this day in Damascus. The drug itself was administered to persons about to undergo amputation or crucifixion in order to ease their suffering. Reference was also made to the ancient Greek "death cup" which was prepared from the juices of the plants hemlock and aconite, and from which Socrates was reputed to have ended his days. Other poisons dealt with were belladonna, opium, coca, cantharides, ergot, Indian hemp and henbane. Ignatius beans and nuxvomica seeds were also shown. Reference was made to present-day toxicological methods for the isolation and identification of poisons, especially arsenic. After the lecture there was a discussion; among those contributing were Messrs. Bentley, Bull, Clay, Highfield and Whysall. A hearty vote of thanks to the lecturer was proposed by Mr. Royce.

Trade Report

The prices given in this section are those obtained by importers or manufacturers for bulk quantities or original packages. To these prices various charges have to be added, whereby values are in many instances greatly augmented before wholesale dealers receive the goods into stock, after which much expense may be incurred in garbling, packing, etc. Qualities of chemicals, drugs, essential and fixed oils, and many other commodities vary greatly, and higher prices than those here quoted are charged for selected qualities of natural products even in bulk quantities.

42 Cannon Street, E.C.4, December 24

DURING the short interval since our last report business has been reduced to end of the year requirements, and the Mincing Lane markets will be closed from Tuesday evening until Friday morning. SHELLAC has taken a further downward turn, usual standard TN orange closing on the spot at 150s. per cwt.; fine orange is now 190s. to 280s., pure button 215s., and AC cakey 210s. To arrive TN for December-January, January-February and February-March shipments have been sold at 130s. c.i.f.; sales for delivery include March at 145s. to 136s., and May at 146s. to 136s. Spot sellers of Zanzibar CLOVES quote 10½d. per lb.; October-December at 9½d., and December-February at 9d. c.i.f. The landings of Zanzibar for the week ending December 21 were 115 bales, and the deliveries 265 bales, leaving a stock of 1,000, against 2,561 in 1928, and 9,777 in 1927. The landings of Zanzibar to date, January 1 to December 21, have been 8,718, against 14,486 in 1928, and the deliveries 10,095, against 19,606 in 1928. West African GINGER is steady at 70s. per cwt. on the spot; December-January shipment is 50s. c.i.f., and January-February shipment 52s. 6d. c.i.f. U.K. PEPPER is again lower, black Singapore offering on the spot at 11½d.; October-December and January-March shipment at 11½d. c.i.f. Lampong is 11½d. spot; October-December and January-March shipments have been sold at 10½d. to 10½d. to 11d. c.i.f. Telli-cherry is 1s. 1½d. spot, and January-March shipment 114s. c.i.f. Alleppy is 1s. 1½d. per lb. spot, and 109s. c.i.f. for Jan.-March shipment. White Muntok has declined to 1s. 4½d. spot. October-December and January-March shipments have been sold at from 1s. 3d. to 1s. 4d. c.i.f., and March-May 1s. 4½d. c.i.f. Among the aromatic seeds, Spanish ANISE is 67s. 6d., and Russian 31s. per cwt. spot. CANARY is unchanged, Mazagan on spot is 30s., and for forward shipment 27s. 6d. c.i.f. Morocco (f.a.q. 4 per cent.) is 27s. spot, and forward 24s. 9d. c.i.f. CUMIN.—Malta on spot is 70s., and firm at 60s. c.i.f. for January-February shipment. Morocco remains at 65s. spot, and for December-January shipment the price has now moved up to 55s. c.i.f. FENUGREEK is quiet at 19s. 6d. to 20s. on spot, and forward shipments at 16s. 9d. c.i.f. are unsaleable. CORIANDER on spot is slow of sale at 9s. 9d. The price for shipment is now firm at 7s. 6d. c.i.f. FENNEL is unchanged at 57s. 6d. spot, and for January shipment 57s. 6d. c.i.f. Indian MUSTARD is quoted for ten-ton lots at 21s. per cwt. c.i.f. for brown (4 per cent.). English is 27s. 6d. to 31s. per cwt., according to quality. Dutch CARAWAY of old crop is now 39s. 6d., and new crop 38s. 6d. spot. RUBBER is slightly easier, being ½d. lower since our last report. Business, on account of the holidays, has been very restricted, and little interest has been shown generally. Arrivals last week totalled 1,182 tons, whilst deliveries were 1,168 tons, showing a further increase of 714 tons in the stocks. The London stock now stands at 53,894 tons, against 18,821 tons at the corresponding period last year. The Liverpool stock now stands at 18,696 tons. Quotations (Monday, 5 p.m.): No. 1 standard ribbed smoked sheet, spot and December, 7½d.; January-March, 7½d.; April-June, 8½d.; July-September, 8½d. per lb. There continues some little interest shown for Chinese regulus ANTIMONY, which is irregular, but generally firmer. Spot parcels delivered warehouse sold up to about £32. Shipment is firmly held at about £28 15s., while some business has been reported of metal afloat at £30. English refined high-grade stands at £52 to £52 10s., and ordinary brands are obtainable down to £45. Chinese crude is steady at £26 ex-warehouse. COPPER SULPHATE.—The tone on export business is steady, but demand is quiet, and British Associated makers quote fully £27 f.o.b. for

casks less 5 per cent. BISMUTH.—The official price is still at 7s. 6d. per lb. as quoted by the Syndicate. Interesting news is that the plant at the Trail installed by the Consolidated Mining and Smelting Company of Canada is actually in operation, and its output is estimated at about 30 tons per annum. ARSENIC.—Demand has continued dull, and Cornish agents are quoting £15 15s. to £16 f.o.r. mines. MERCURY.—There has been practically no change in the market, which fully retains its recent firmness, while a steady demand is reported for forward shipment by the agents of the Combine on the basis of £21 15s. f.o.b. less a discount varying from 1 per cent. upward according to quantity, or more than 500 bottles. Terms ex-wharf for controlled metal for lots up to 10 bottles stand at £22 7s. 6d. net. In the open market merchants are quoting about £23 per bottle, less the usual discount. American turpentine oil remained dull but fairly steady, closing at 42s. 3d.

Chemical Markets during 1929

A YEAR ago, when reviewing the chemical markets for 1928, we stated "while the year now drawing to a close has been one of limited and rather difficult business, the outlook for the forthcoming twelve months seems to point to nothing in the way of material improvement, and will be just another period of struggle to keep up present turnover." Unfortunately this forecast has proved to be all too accurate. It fairly sums up a year of business that has had particularly few outstanding points of interest, and it has undoubtedly been a struggle for the majority of firms to keep up their average turnover. Business might certainly have been much worse, but possibly in comparison with the slackness in many industries, the turnover in chemicals has been all that could be expected. But business done at little or no profit is not good business, and this has been a far too prominent feature of the trade throughout the year. What would have been the position if it had not been for the many price conventions in force is difficult to conceive. While no one believes that exorbitant profits is good business in the long run, there is a reasonable medium of return which both producers and merchants are entitled to expect, yet, in their desperate efforts to secure orders, there is no doubt that quite a considerable volume of trade has been done, either showing practically no profit or an actual loss. This comment does not refer to losses due to a general fall in the market price of an article, but to price-cutting without reason, except possibly "to keep the other man out." The number of conventions governing prices of products has increased during the year, especially in the pharmaceutical section. In this market quite a number of products of importance coming from the Continent came under control in this way, with the result that values were advanced. It was recognised that this movement was bound to take place as prices had reached a point far below an economic level, so far as producers were concerned. It is estimated that well over 50 per cent. of the business in pharmaceutical products is now done at prices governed by conventions. Although there has usually been an outside parcel or two on the market, offering at a slight discount on the convention rates, the markets governed by this method have not been seriously threatened, there being only a few instances where the controlled price has had to be adjusted to meet the position. Conventions have now had a fair trial, and it may fairly be said that they have justified their establishment. They certainly have the effect of steadying the markets, while to buyers they give a fairly good guarantee of a reliable source of supply. The movement, commenced a few years ago, of the formation of huge combines has made a little headway during the year, but there is now a distinct feeling that this movement has its drawbacks as well as its desirable points. There is a daily growing opinion that while rationalisation may be applied to and be beneficial to some industries its application does not seem to be practicable to an industry so diverse and complicated as is the chemical industry, for rationalisation that does not afford a monopoly is useless. Doubtless the outstanding chemical combine in this country is,

after some three years, fast getting into its stride and has little to regret for being the pioneers, so far as the chemical industry is concerned, in this movement. But it must be borne in mind that this particular combine has numerous manufacturing interests far removed from that of producing chemicals, and, where chemicals are concerned, they have very considerable monopolies, as, for instance, in alkali products.

As a whole the manufacturing interests seem to have done moderately well, although there has again been no material expansion in the way of producing fresh products. The Board of Trade have once more exempted from key industry duty for a year the usual list of important products, because they are not being made here. There are three minor exceptions, namely, lithium carbonate, lithium hydroxide and methyl chloride, but these are balanced by additions to the free list made during the year. Few manufacturers will disagree entirely with the opinion that the key industry duties on imports is a double-edged sword, and that this legislation has not been nearly so beneficial as was expected. As matters are to-day the home makers are possibly receiving more real practical aid in their business by having reached agreement with their foreign competitors than from import duties. The latter have failed almost entirely to stop imports where the foreign producer wanted to maintain his position in this market. A breakdown of the present friendly arrangements between the Continental and home makers would be more serious to the latter than the cancellation of the key industry duties. While there is no ground for stating that the home manufacturers are much further ahead than they were twelve months ago, it can be said that, under the difficult circumstances experienced during the post-war days, they have, as a whole, adjusted themselves and established their position successfully. There is little or no fear, for instance, that the pharmaceutical branch will revert to its pre-war insignificance. Although by no means the most important in the world it is to-day of some substance, and would form a sound basis to work on in case of a national crisis, such as was experienced in 1914. Merchants have carried on in their usual active manner, seizing every opportunity to keep the wheels moving. They are actively interested in the various conventions now operating. The old opposition to merchants from some quarters is still evident, but, generally speaking, the necessity for, and the useful services rendered to both maker and consumer by the bona fide merchant is now fully recognised. There can be no doubt that merchants will continue to function as a very necessary part of the machinery of the chemical industry. Makers have experienced the fallacy of limiting their sales to consumers; in many cases it was found that it was quite impossible to continue the steady output so vital to economic production, and, in consequence, there has been during the year a marked return to the old order of things, with the producer and merchant pulling together for their mutual benefit. Briefly, the manufacturer has realised the great truth that it is one thing to produce an article but an entirely different matter to sell it.

Reverting to the trade of the year, there seems to have been no especially quiet periods; on the other hand, there have been no really active spells of business and the year has brought with it just a steady flow of moderate business. Neither has there been any important change in fashion on the part of consumers. In former years a consuming industry has changed over to some new product, which was immediately followed by a small boom in that article and a slackening in the demand for the product formerly used. As a whole, and on average, prices at the close of the year are well up to the figures ruling in January last—in fact, in the pharmaceutical section a fair advance is recorded in a number of products. As to the outlook for the coming year, once more it is difficult to put forward sound reasons for suggesting that any material improvement in trade can be anticipated. Prices are now fairly well established and comparable with cost of production, and, here again, little change is to be expected, except for the usual fluctuations in the seasonal products.

PHARMACEUTICAL PRODUCTS

A fairly satisfactory year can be recorded for this market, both as regards the volume of business transacted and the general steadiness of the market. During April/May a number of products of importance advanced in prices, due to agreement having been reached between the makers, mostly Continental. The one unsatisfactory feature was the ever present price cutting which, in a number of instances, seems to have been quite unnecessary. Export business has been progressing slowly, but the bulk of this trade is still done by merchants, who are forced to ship the goods direct from the Continent on account of import duties. It can be definitely stated that this barrier to the free flow, inwards and outwards, of trade has incurred the loss of thousands of pounds worth of business to this country, not only in respect of dutiable goods, but also non-dutiable products, for the merchant cannot ship half an order from the Continent and the other half, composed of non-dutiable goods, from this country.

ACETANILIDE has remained at level figures all the year, with B.P. crystals and powder at 1s. 4½d. to 1s. 6d., with business about average. ASPIRIN, opening at 2s. 3d. to 2s. 6d. with most business passing at lower figures, weakened to 2s. 1½d. to 2s. 3d. by February, and some orders of size were booked at even less. By April matters had improved, with the market steady at 2s. 2d. to 2s. 5d. Indications of a further advance proved correct, with 2s. 6d. to 2s. 8d. quoted in May, and these rates were maintained up to August, when, with the market well held, prices again moved up to 2s. 9d. to 3s. per lb., as to quantity. During the course of the year the various advances in prices were generally anticipated, and a great deal of the big business was placed at the lower rates obtaining early on. At the close the position continues steady, with the bulk of the business going to the home producer. BENZOIC ACID B.P. was firm in the early months of the year, with quite a good business moving. In January 2s. to 2s. 2d. was quoted, and an advance of 1d. was notified in March, at which figures the market held up to about July, when 2s. 1d. to 2s. 2d. was quoted. Towards September the slightly easier terms of 2s. 0½d. to 2s. 1d. for quantities, ex works, were mentioned, and the market closed at about these figures. Foreign make has been shut out by the Dyestuffs Act throughout the year. BROMIDES.—This important market has been the scene of various incidents during the year. Some efforts to stabilise prices were made, but they were not permanently successful. The competition between home makers and merchants selling imported material has at time been fierce, and even the former have not always seen eye to eye on the all-important question of sales prices. During a good part of the year the quoted prices were no true guide to actual sales prices for quantities. Dealers' prices opened for ammonium at 1s. 11d., with 1s. 10½d. quoted in April, and 1s. 11d. in July. About October 1s. 10d. was recorded, and that figure has held up to the close. Potassium B.P. crystals were quoted at 1s. 7½d., and by March were down to 1s. 7d. Prices remained round about this figure up to July, when the market weakened to 1s. 6½d. In October/November about 1s. 6½d. was quoted, and at the close about 1s. 6d. per lb. for quantities in cases. Granulated has moved accordingly, being generally ½d. per lb. cheaper. Sodium B.P. opened at 1s. 10d., and weakened to 1s. 9½d. in March, and was down to 1s. 8½d. in May. In July 1s. 9½d. was quoted, with the closing figure about 1s. 9d. per lb. for quantities. During most of the year the quoted prices were being discounted for good-sized business. Home makers were selling at about the same prices as merchants in the early part of the year, but during the last three months of the year the home makers made drastic cuts in prices. The tone at the close is somewhat steadier and the possibility of some recovery to slightly higher prices in the new year is a fair one. CALCIUM LACTATE (B.P.) opened at 1s. 2½d. to 1s. 3½d. as to quantity, and was easier at 1s. 2d. to 1s. 3d. in April. The market was steadier at former rates in July, but moved back to 1s. 2d. to 1s. 3½d. as to quantity, closing unchanged. CHLORAL HYDRATE has mostly been a home makers' market, with prices in January at 3s. 1½d. to 3s. 3d. In March 3s. 1d. to

3s. 3d., as to quantity, was quoted, and prices have remained unchanged for the rest of the year. Imported make, except for odd parcels, has been generally non-competitive, closing at about 3s. 6d. per lb., duty paid. Rather higher prices from the home makers only in the year are possible. CITRIC ACID (B.P. crystals).—The year's business does not seem to have been entirely satisfactory, both as regards prices and the quantity disposed of. The Italian suppliers were at an advantage in the early months of the year, but latterly the home makers have made headway and seem to have more than held their own. In January 2s. 1½d. to 2s. 2d., less 5 per cent., was being asked, with a slightly weaker market in February. Firmer conditions were recorded in April at 2s. 2d. to 2s. 3d., and this was about the best price of the year. By May 2s. 1½d. was mentioned, and later on 2s. 1d. By September/October spot offers were at 2s., and in the last month of the year 1s. 11½d., less 5 per cent., was taken, and possibly less, for good quantities. Home makers have been well in the picture latterly and were leading the market at 1s. 11d., less 5 per cent. Italian to arrive is quoted at 1s. 11½d. c.i.f., less the usual discount. B.P. CREOSOTE has been unchanged throughout the year at 1s. 8d. to 1s. 9d. per lb., with the market steady but seldom active. CREOSOTE CARBONATE opened at 5s. 10d. to 6s. per lb., and was down 1d. by April, with a further drop to 5s. 8d. to 5s. 9d. in September, closing unchanged and generally quiet throughout the year. GUAIACOL CARBONATE opened at 4s. 6d. to 4s. 8d. on an unusually slow market. In June there was a temporary move to the higher price of 5s. to 5s. 2d., but values soon reverted to the former figures and continued unchanged up to the end of the year. HEXAMINE, which had experienced severe price cutting in 1928, opened at 1s. 11d. to 2s. per lb. In March competition had brought the market down to 1s. 10d. In April there was a sudden advance, due to agreement between Continental makers, to 2s. 4d. to 2s. 6d. In August agreed prices were adjusted to 2s. 3d. to 2s. 6d., and later on to 2s. 2½d. to 2s. 4d. per lb., as to quantity, the year closing at these figures. Some outside second-hand parcels were occasionally offering at slightly cheaper prices but not in sufficient quantity to disturb the market. It is interesting to note that prices are now level with those obtaining in 1927. HYDROQUINONE has been a controlled market so far as prices are concerned and has been unchanged throughout at 3s. 8d. to 3s. 11d. per lb., as to quantity, with a slightly cheaper figure for large quantities. METHYL SALICYLATE B.P. was a keen market in the early months of the year at about 1s. 4d. to 1s. 6d. per lb. In April something in the form of agreement on prices was reached and the market was advanced to 1s. 6d. to 1s. 8d. Values held at these figures up to the end of the year. The home makers appear to have done well. METHYL SULPHONAL shows a big advance on the year as a result of agreement between Continental producers, which put a stop to a prolonged period of price cutting. Opening at about 9s., by March 8s. 8d. to 8s. 9d. was reached. In the first week in April there was a big jump to 18s. 6d. to 19s. per lb., and these prices continued on spot up to the end of June, when the market moved back to 11s. 6d. to 12s. At these rates the market was comparable with Continental prices and became stabilised under agreement. A further adjustment of prices to 12s. 7d. to 13s. 10d. per lb., as to quantity, was recorded in July and the market continued unchanged for the remainder of the year, showing an advance of about 4s. per lb. on the twelve months. PARAFORMALDEHYDE (100 per cent. powder) was at 1s. 7d. to 1s. 8d. per lb. in January and had gradually moved up to 1s. 8d. to 1s. 9d. by April. In about September the former rates were recorded and no further change took place. PARALDEHYDE has been quoted throughout the year at 1s. 1d. to 1s. 4d. per lb. as to quantity and packing, with price cutting for quite small business in evidence. PHENACETIN has fluctuated from time to time during the year and shows an advance of about 1s. per lb. on the twelve months. Opening at 2s. 3d. to 2s. 4d., the spot position was easier at 2s. 2d. to 2s. 3d. in February. In early April the market was firmer at 2s. 6d. to 2s. 9d., quickly moving up to 2s. 9d. to 2s. 11d. by the end of the month. In July a further advance to 3s. 3½d. to 3s. 7d. was recorded, and towards the end of the year controlled prices were adjusted to

3s. 2½d. to 3s. 5d. per lb. as to quantity. The market closed steady after a year of fairly satisfactory business. PHENAZONE has also improved during the year and shows a considerable advance in price. Opening at 3s. 7d. to 3s. 8d., and even less on a competitive market, the spot position became healthier towards the end of March, and in April prices gradually moved up and reached 4s. to 4s. 4d. Early in July, in consequence of Continental agreements, values jumped to 5s. 9d. to 6s. 1d. per lb. as to quantity, and these figures ruled the market for the rest of the year. Prices have advanced about 2s. 3d. per lb. on the year. PHENOLPHTHALEIN has been steady throughout the year at 5s. 11d. to 6s. 1½d. per lb., these being the Convention rates. At times occasional lots were sold at lower rates but without disturbing the market. POTASSIUM PERMANGANATE (B.P.) has remained in the region of 5½d. to 6d. per lb. as to quantity during the period under review. Business of importance has been quiet, the trade being mostly in druggists' quantities. RESORCIN shows an improvement on the year and is still comparatively cheap. Opening at 2s. 8d. to 2s. 10d., a penny more was being asked in March. In September agreed prices were issued showing an advance to 2s. 11d. to 3s. 2d. per lb. as to quantity. SALICYLIC ACID (B.P.), which has been entirely in the hands of home makers, continued competitive at the opening of the year at about 1s. 3d. to 1s. 5d., and less. In about April, upon agreement being reached, values were fixed at 1s. 5d. to 1s. 7d. per lb., and these prices have held good for the remainder of the year. Foreign make has been shut out under the Dyestuffs Act prohibition. SALOL opened steady at 2s. 3d. to 2s. 6d., and was up to 2s. 9d. and 3s. by May. In June, under controlled conditions, values were substantially advanced to 3s. 7½d. to 3s. 10½d. per lb., as to quantity, and these prices continued to operate up to the end of the year. SODIUM BENZOATE (B.P.) was in good demand in the early months of the year, and the market was well held at 1s. 7½d. to 1s. 8d., and later at 1s. 8½d. to 1s. 9½d., with supplies rather limited. Towards September the position became slightly easier at about 1s. 7½d. to 1s. 8d. per lb., with these prices quoted at the close of the year. SODIUM DIETHYLBARBITURATE was dull and easy in January at about 7s. 6d., by April it was down to 7s. 4d., and, finally, in May, to 7s. 3d. In June firmer conditions were recorded at 7s. 9d., and in September, with the arrival of agreed prices between Continental makers, the spot value was moved up to 8s. to 8s. 3d., and to 9s. 6d. to 10s. in September. Finally, the controlled market values were 9s. 7½d. to 10s. 3½d. as to quantity, f.o.b. Continent, with spot about 10s. per lb. The market is steady, but has been sluggish throughout. SODIUM SALICYLATE (B.P.), as in the two former years, opened competitive, with keen prices offering in the region of 1s. 7d. for crystal and 1s. 6½d. for powder. In March, as the result of agreement, values moved up sharply to about 2s. 3½d. to 2s. 5d. for crystals, and a penny less for powder. Crystals showed a further advance to 2s. 6d. in April. In July, with the home-makers holding a strong position, the price of crystals was about 2s. 2d. to 2s. 4d., as to quantity, and slightly less for powder. Latterly there seems to have been rather poor business for foreign make. On the year prices show a good advance, and are now more in line with cost of production. SULPHONAL is another item that shows a big advance in value on the year. Opening at about 6s. 3d. to 6s. 6d., these low rates operated up to March, when spot jumped to 10s. and upwards, on receipt of the news that prices were going to be fixed under a controlled market. This movement was effected in July, with spot values adjusted to 10s. 1d. to 11s. 2d. per lb., as to quantity. Since that time the market has remained unchanged. TANNIC ACID (B.P.) levis was about steady on a quiet market at 2s. 10d. to 2s. 11d. for most of the year, and in November was quoted at 2s. 9d. to 3s. 2d. per lb., as to quantity. TARTARIC ACID (B.P. crystals), has moved within a very limited margin, there being an absence of the usual violent fluctuations. Foreign was 1s. 4d. to 1s. 4½d., less 5 per cent. in January, and the market was a shade dearer by March, but lost this temporary improvement in a week or two. A fair volume of business continued up to about September, when the usual end of the season weakness was recorded. In November, 1s. 3½d., and

less, was being taken, and at the close of the year the spot position was rather weak, the price declining to 1s. 3½d., which price home makers were quoting. Foreign is offered forward at 1s. 3½d. c.i.f., and this figure seems none too steady. The market closes unsteady, with a fair indication of further reductions unless the two Continental sources come to agreement. Apart from the keen competition, raw material has been very firm. TERPIN HYDRATE has remained at about level figures throughout the year at 1s. 5d. to 1s. 6d. per lb. THYMOL seems to have had a disappointing year as regards business. In January about 9s. 6d. was quoted for synthetic, with a reduction to 9s. 3d. in March, and a further loss to 9s. 1d. to 9s. 3d. was recorded in April. These prices held good on a slow market up to the last month of the year, when the still cheaper prices of 8s. 3d. to 9s. were recorded. Ex ajowan seed has been quoted throughout at about 11s. 3d. per lb. The fight for the business in VANILLIN, between clove oil and guaiacol sources of supply, has been keen throughout. In the early months of the year, when the latter was at about 14s. 6d. to 14s. 9d. per lb., ex clove oil was quoted at about 17s., but prices were soon reduced to a more or less competitive level. At the half-year this competition had the effect of weakening the market, and it seems that quoted prices were no true guide to actual sales. Towards the end of the year ex clove oil was quoted at 14s. in cwt. lots, and less for quantities, while ex guaiacol was competing with these rates; in fact, it is reported that considerably under these quoted rates was accepted for important business.

	December 1926	December 1927	December 1928	December 1929
Acetanilide .. lb.	1/7 to 1/7½	1/6 to 1/6½	1/4½ to 1/6	1/4½ to 1/6
Anilidopyrin ..	11/9 to 12/-	8/4 to 8/6	7/6 to 7/9	10/7 to 11/1
Ammon. bromide ..	2/1 to 2/1½	1/11½ to 2/-	1/11 to 2/-	1/10 to 1/11
Aspirin ..	2/4 to 2/5	2/3½ to 2/4½	2/3 to 2/6	2/9 to 2/11
Barbitone ..	8/8	5/9 to 5/10	5/8 to 5/11	7/3 to 7/9
Benzoic acid ..	2/3 to 2/5	2/0½ to 2/1½	2/- to 2/2	2/0½ to 2/1½
Calcium lactate ..	1/3 to 1/3½	1/1½ to 1/2	1/2 to 1/3½	1/2 to 1/3½
Chloral hydrate (duty paid) ..	3/4 to 3/5	3/3 to 3/4	3/1½ to 3/3	3/1 to 3/3
Citric acid ..	1/2½ to 1/3	1/6 to 1/7	2/3 to 2/4	1/11 to 2/-
Cresote B.P. ..	1/9	1/8 to 1/9	1/8 to 1/9	1/8 to 1/9
Cresote carbonate ..	6/-	5/9 to 6/-	5/10 to 6/0	5/8 to 6/-
Guaiacol carbonate ..	6/9	4/8 to 4/10	4/6 to 4/8	4/6 to 4/10
Hexamine ..	2/4½ to 2/6	2/3 to 2/4½	1/11 to 2/1	2/2½ to 2/4
Hydrogumone ..	3/11½ to 4/-	3/10 to 4/-	3/7½ to 4/6	3/7½ to 3/11
Methyl salicyl. cwt.	1/6½ to 1/7½	1/5½ to 1/6	1/4 to 1/6	1/6 to 1/8
Methyl sulphonal ..	15/3	9/- to 9/3	8/9 to 8/11	12/7 to 13/10
Milk sugar ..	62/- to 66/-	57/- to 60/-	54/6 to 60/-	54/6 to 56/-
Paraformaldehyde lb.	1/9 to 1/10	1/8 to 1/8½	1/7 to 1/8	1/7 to 1/8
Paraldehyde ..	1/2 to 1/4	1/1 to 1/3	1/1 to 1/3	1/1 to 1/4
Phenacetin ..	3/10 to 3/11	2/5 to 2/7	2/3 to 2/5	3/2½ to 3/5
Phenazone ..	5/9 to 5/10	3/11 to 4/2	3/7 to 3/8	5/9 to 6/1
Phenolphthalein ..	6/2 to 6/4	6/6 to 6/10	5/11 to 6/1½	5/11 to 6/1½
Potash bromide B.P.	1/8 to 1/8½	1/8 to 1/8½	1/7½ to 1/8	1/5½ to 1/6½
Potash sulphoguaicac.	5/6	5/6	3/11 to 4/-	3/6 to 4/-
Quinine sulphate oz.	1/8	1/7½ to 1/8	1/8	1/8
Salicylic acid, B.P. lb.	1/4½ to 1/5½	1/2½ to 1/3½	1/3 to 1/6	1/5 to 1/7
Salol ..	3/3	2/0½ to 2/3½	2/3 to 2/6	3/7½ to 3/10½
Sodium bromide ..	1/10-1/10½	1/10½-1/11	1/10 to 1/11	1/9 to 1/9½
Sodium diethyl. barb.				
Sodium salicyl. .. lb.	9/3	7/10 to 8/-	7/10 to 8/-	10/-
Sulphonal ..	1/10½-1/11½	1/7 to 1/8	1/6 to 1/8	2/2 to 2/4
Tannic acid, levis, B.P.	10/-	6/11 to 7/-	6/6 to 6/8	10/1 to 11/2
Tartaric acid, B.P.	2/9½ to 2/10	2/8 to 2/10	2/10 to 3/-	2/9 to 3/2
Thymol ..	11/6	10/3 to 10/6	9/6 to 11/-	8/3 to 9/-
Vanillin ..	19/-	15/6 to 16/-	15/- to 17/-	14/-

Russo-Japanese Iodine Agreement

THE Japanese Iodine Company (Nippon Jode Kaisha) has (says the "Chemical Trade Journal") concluded with the Russian Trade Delegation at Tokyo an agreement whereby Japan will deliver to Russia for the next three years 42,000 lb. of crude iodine a year.

Bulgarian Rose Oil Exports

ACCORDING to the official figures published by the General-Direction of Statistics of Sofia, Bulgaria, exports of rose oil in August, 1929, amounted to 363 kilos, valued at 36,711,954 leva, consigned to the following countries:—Great Britain, 103 kilos; Germany, 6 kilos; France, 254 kilos; Jugoslavia, 100 grains; other countries, 70 grains. During the first eight months of 1929, exports of rose oil totalled 2,212 kilos, valued at 216,773,553 leva.

Acetic Acid Prices

DISTRIBUTORS of acetic acid (says the "Manchester Guardian Commercial") have arranged for the time being to maintain for the coming year the figures now being asked for glacial, technical and pure qualities. In view, however, of the advance of 9d. a carboy in the price of hydrochloric acid, there has been a rise of 5s. to 10s. per ton in the 40 per cent. technical. The quotations are as follows:—

Acetic Acid 80 per Cent.

	Pure	Technical
London:—	£ s.	£ s.
C.i.f.	36 0	35 10
Ex wharf	37 0	36 10
Manchester and Liverpool:—		
C.i.f.	36 10	35 0
Ex wharf	37 10	36 0
Delivered Midlands ...	38 15	37 5
Yorkshire ports:—		
C.i.f.	37 0	35 10
Ex wharf	37 10	36 0
Delivered Yorkshire area	38 5	36 15

All prices in minimum one-ton lots, casks free.

The following are the extras: over ten cwt. and under one ton, £1 per ton; under ten cwt. but not less than one cask, £2 per ton.

Glacial Acetic Acid

Ex wharf London and	99/100%	98/100%
Manchester:—	Demijohns	In barrels
Minimum 1-ton lots	... £64	£53
Minimum 10-cwt. lots	... £65	£54
Minimum 5-cwt. lots	... £66	£55
Smaller quantities	... £68	£57

The delivered prices of these grades depend on the distance to buyers' works.

Acetic Acid 40 per Cent. Technical

F.o.r. Manchester	... £17 15s.
Delivered Manchester district	... £18 0s.

These prices are in minimum one-ton lots; casks returnable to the works or charged at 6s. each. The extras for smaller quantities are the same as those charged for the 80 per cent.

Sudan Gum Acacia

BOXALL & Co., dealing with the market from November 1 to November 30, state that there were no arrivals of old crop during the month in Kordofan or other stations, whilst in November last year the old crop arrivals in Kordofan amounted to 132 tons. The total arrivals of Kordofan gum from the beginning of the season to date amounted to 10,980 tons, compared with 16,580 tons for the corresponding period of the 1927-28 season, a shortage of about 5,600 tons, or 33½ per cent. With the shortage of inferior Hashab, estimated at about 2,000 tons, the total shortage in Hashab gums against last season would amount to 7,600 tons.

Exports.—The exports of Hashab (including bleached) from January to October 1929 were down 6,670 tons, against exports for the same period in 1928. On the other hand, there was an increased export of Talha by 900 tons.

Stocks.—There are no stocks of old crop gum in the country.

As regards new crop:—

Arrivals in Kordofan stations (including Tendelti) amounted during the month to 253 tons, against 132 tons in 1928, 42 tons in 1927, and 164 tons in 1926. November new crop arrivals have been the largest ever recorded, but it must be remembered that early large arrivals, up to, say, December, are not in themselves necessarily an indication of a large total crop.

Prices.—From November 10 (when arrivals were large enough to indicate a price) to November 12, prices at El Obeid were steady, but afterwards gradually fell, until the total fall by November 20 amounted to 4s. 6d. per cwt. Subsequently prices had a firm and slightly upward tendency to November 23, but when the market reopened on the Saturday prices declined, and actually closed at 3s. less. The total decline during the month amounted to 7s. 6d. per cwt. It is pointed out that c.i.f. quotations continue to be speculative and remain considerably below the El Obeid parity.

Demand has been relatively small, and it is estimated the total quantity of orders placed with Sudan shippers will be much less than last year, and this notwithstanding the small exports of the past season. Whilst it is possible the prospects of consumption may be inferior to those of last year, it is

felt that the chief influence is the repeated decline in prices which has tended to delay overseas buyers placing their orders. The danger arising from this situation is that the consumption of meagre stocks abroad must sooner or later force purchasing on a considerable scale, and if these accumulating requirements tend to come on this market together, there is likely to be a sharp reaction, because present prices are not above what the principal consuming industries are paying. Expectations of falls in the price of gum, no less than increases, have always had a tendency to be greater than actualities, and unless there is to be an exceptional lack of demand in 1930, or *vice versa*, an exceptionally large crop, it is unlikely that there will be a return to the extremely low prices ruling from May 1926 to the beginning of 1929, because these prices gave an extremely poor return to the native collector and were evidently not essential from the point of view of consumption. The following are the exports from January to October:—

Destination	1928			1929		
	Jan.-Sept.	Oct.	Total	Jan.-Sept.	Oct.	Total
Great Britain ..	3,683	159	3,842	2,795	65	2,860
U.S.A. ..	4,240	233	4,473	3,660	85	3,745
France ..	3,472	141	3,613	2,324	27	2,351
Germany ..	3,097	190	3,287	3,068	21	3,089
Italy ..	1,278	151	1,429	909	11	920
Belgium ..	1,508	123	1,631	854	—	854
Japan ..	619	45	664	391	—	391
Spain ..	344	3	347	189	—	189
Holland ..	549	53	602	394	12	406
Denmark ..	34	5	39	14	—	14
Norway & Sweden	312	119	431	100	—	100
Egypt ..	95	4	99	53	4	57
Australia and N.Z.	384	27	411	412	2	414
China ..	133	40	173	144	—	144
Canada ..	65	15	80	20	—	20
Argentina ..	77	—	77	46	—	46
Brazil ..	50	2	52	25	—	25
Uruguay ..	22	—	22	7	—	7
Finland ..	5	—	5	27	—	27
British India ..	172	59	231	84	—	84
Other countries in America	7	—	7	23	1	24
Other countries ..	48	5	53	37	—	37
Total tons	20,194	1,374	21,568	15,576	228	15,804

The export figures are made up of the following qualities:—

	Hashab	Bleached	Talha	Total
January-Oct., 1928: Tons ..	19,219	335	2,014	21,568
January-Oct., 1929: Tons ..	12,674	209	2,921	15,804

Difference in 1929: Tons .. -6,545 -126 +907 -5,764

It will be seen that the decrease in 1929 was 5,764 tons compared with 1928. France shows the biggest decrease (1,262), followed by Great Britain 982, Belgium 777, U.S.A. 728, Italy 509, Japan 273, Germany 198, Holland 196, Spain 153, and British India 147 tons.

Trade-Mark Applications

The figures in parentheses refer to the classes in which the marks are grouped. A list of classes and particulars as to registration are given in "The Chemist and Druggist Diary," 1929, p. 333.

(From "The Trade Marks Journal," December 18, 1929.)

- "IEREOL"; for disinfectants (2). By Trinidad Leaseholds, Ltd., 1 London Wall Buildings, London, E.C.2. 507,399.
- "KOFFNIPS SAFETY FIRST" on snow scene ("Koffnips" and "Safety First" disclaimed); for medicated sweetmeats (3). By J. Priestley, 34 Walmesley Road, Leigh, Lancashire. 503,985.
- "CEREGUMIL"; for medicinal food (3). By B. F. Sánchez, 49 Corredera, Montilla, Cordoba, Spain. 504,192 (Associated.)
- "INALTERABLE"; for clinical thermometers for export (11). By J. Pillischer, 88 New Bond Street, London, W.1. B492,591.
- "KODAGRAN"; for all goods (39). By Kodak, Ltd., Kingsway, London, W.C.2. 507,909. (Associated.)
- "ALPINE HERB MALT AKRAMA" with label design ("Herb Malt" disclaimed); for herb and malt preparations for food (42). By P. Hochstein, 20 Bahnhofstrasse, Altstetten, N. Zurich, Switzerland. 504,917.
- "JULIUS"; for mineral waters, etc. (44). By Kia-Ora, Ltd., 35 to 38 Rushworth Street, Blackfriars, London, S.E.1. 507,286. (Associated.)
- "YAMILÉ"; for all goods (48). By Société Anonyme Des Anciens Etablissements Baignol et Farjon, 8 Rue D'Orléans, Boulogne-sur-Mer (Pas-de-Calais), France. 507,959.



Letters for this section should be written on one side of the paper only. Correspondents may adopt an assumed name for purposes of publication, but must in all cases furnish their real name and address to the Editor.

Secundum Artem

SIR,—I agree with Mr. Franklin that liniments should be dispensed as prescribed; and I would go further and say that all prescriptions should be dispensed as prescribed, unless there is a dangerous incompatible or overdose. In holding out this view it must be understood that I am referring to Insurance dispensing, which stands in a class by itself; an entirely new thing has grown up under this service, and the position has evolved from the mixture of bureaucracy and parsimony with which the pharmaceutical side of it has been administered. In private dispensing practice and in businesses which prided themselves on their dispensing, it used to be the aim of the pharmacist to turn out an elegant preparation in addition to fulfilling the requirements of the prescriber and presenting the patients with a satisfactory article; and if to do this the addition of some item, some suspending agent or emulsifier, was necessary in the experience of the dispenser, then it was added and duly noted in the prescription-book. But under the Insurance service we are so hedged round with regulations and circular letters limiting our judgment, with inspectors and analysts who require mathematical accuracy, and with the risk of being censured or fined, that the only thing we can possibly do is to dispense as written regardless of the appearance of the finished product. Having done this the pharmacist has done what he is required to do. His own experience will probably tell him that a liniment with a formula such as the panel so-called lin. alb., with its quantity of liq. ammon. fort., would be likely to have considerably unpleasant effects on a tender skin, especially when used with the lavishness some patients adopt with applications they have not to pay for; but this is entirely a matter for the prescriber and the editors of the formulary to settle between themselves.

Faithfully yours,

COME SCRITTO (23/12).

Hints on Display

SIR,—In the report of the paper read by Mr. Paul Dobson at Leeds on "Display for the Chemist" (*C. & D.*, December 14, p. 710), we read: "Chemists do not make sufficient use of showcards." This may be true, but as a retail chemist may I point out that this is not always our fault; the use of showcards is governed by conditions over which we have not always complete control. For example, some of the highly paid experts who design showcards for the big proprietaries think in terms of West End stores with very large windows, any one of which would hold two or three of the ordinary chemist's windows, and a showcard which would make an effective display in one of these would be far too unwieldy for the small chemist's display. I have in mind a really beautiful showcard in the form of a triptych which arrived from one firm, but it was of such dimensions that it was impossible to find any position to accommodate it. Then again, the average retail chemist has so many lines to show and so few windows to show them in that he cannot afford to devote his whole space to one line even for a fortnight's display, as he finds by experience that although such a display may stimulate the sales of that article it leads to decrease in other lines. The showcards which are most suitable for the small pharmacy are those which are not more than 12 x 18 inches, accompanied by smaller slip ones for the front or edges of the shelves, so that a compact display can be made of each separate line. Several of such in the same window, being displays within a display, so to speak, is the best method for the single window shop. Regarding the idea of displaying only one or two lines at a time, and not one

or two articles of several lines, it is worth noting that the multiple shops and the bazaars frequently adopt the latter method, and have their windows filled with an assortment of goods, sometimes even only one of each line being shown; and if they find it good business to do this, there is no reason why the chemist should not do so as well. With regard to price ticketing, I fully agree with the statement that it is unduly neglected.

Yours, etc.,

ETICHETTA (23/12).

Settling in Business

SIR,—The fifth article on "Settling in Business," by "Fifty Odd" (*C. & D.*, December 7, p. 682), gives some good examples of the types of businesses which the purchaser may have offered for his consideration, but is it really always necessary to carry on a business on exactly the same lines as one's predecessor in order to be successful with it? Times change and with them the public, style of goods, demand and all other factors; there is tendency for a man who has been in the same shop for thirty years or more to stick to the methods which built up his business when he first opened it, and it is possible that a modernisation of these methods might lead to an increase of business rather than a decrease. The first type of business which "Fifty Odd" mentions is one which I think is dying out under modern conditions; people to-day do not confine their purchases to one shop as they used to, and the being on good terms with the local medicos generally means that they expect one to stock all kinds of patent articles which they recommend for a time and then drop in favour of new ones, meanwhile supplying their paying patients with "straight" medicine themselves. I can remember one instance in which a successful business gradually depreciated, because the owner refused to stock modern proprietary lines which showed a small margin, refused to sell less than certain quantities of loose drugs, charged face value for unprotected patents instead of competitive prices, and was slow to take up any new idea. As, therefore, his old customers moved away, or died, he failed to replace them with the new-comers and so the decline commenced. With regard to the wages bill, leaving out the question of the morality of the conduct of the man who would leave his pharmacy without a qualified man in charge even if undetected, is not such a man trying to gain an unfair advantage over his neighbours?—Yours, etc.,

MORALE (17/12).

Subscribers' Symposium

For interchange of opinion among "C. & D." readers and brief notes on business and practical topics.

Lin. Alb.

W. T. (18/12) writes: A cheap and elegant form of lin. alb. for N.H.I. can be made thus:—

Ol. colzae	...	...	5vj.
Infus. quillaie (1 in 10)	...	...	mv.
Shake well and add:			
Liq. ammon. fort.	...	...	3j.
Ol. terebinth.	...	...	3j.

Cottonseed oil gets very thick in cold weather, similar to olive oil, but colza oil does not.

"Let It Stand"

This laconic injunction often appears in pharmaceutical and chemical operations. As an illustration of the effect of such a statement, if calcium chloride solution is mixed with sodium carbonate solution a light precipitate is obtained and no settlement takes place for some time. If after a time the flask is examined again, the precipitate will have aggregated into a mass and will require shaking to cause suspension. If solution of antimony chloride is poured into water, a light, easily diffused precipitate results. After a few days the precipitate becomes a light brown or yellow pearly, lustrous crystalline mass, easily collected and washed. Many other instances in daily routine can be enumerated.—*Abel Scholar.*

Legal Queries

G. E. W. (21/11).—Do the Shops Acts make it illegal for an employer to require an assistant to undertake dispensing duty for two or three hours during the afternoon of the early-closing day? [The law requires that on one day in each week the assistant shall not be employed after 1.30 p.m., and provided he is given his half-holiday on some other day there is no reason why he should not be employed after 1 p.m. on the early-closing day.]

E. F. G. (13/11) bought a business a year ago. There was no agreement, but the vendor gave a receipt for the purchase money which was stated to be "for fittings, fixtures and goodwill." The town is a small one, and the vendor has now returned to it and announced his intention to start in business there again. Can "E. F. G." prevent him from doing so or recover compensation if he does? [In our opinion, "E. F. G." will have no remedy if the vendor starts a fresh business in the town.]

Miscellaneous Inquiries

When samples are sent particulars should be supplied to us as to their origin, what they are, what they are used for and how. We do not undertake to analyse and report upon proprietary articles nor to publish supposed formulas for them.

Gyp (12/12).—DIARRHŒA IN DOGS.—Diarrhœa is usually due to the food, foreign body or irritant in the bowels, or association with a disease such as tuberculosis. In all cases where diarrhœa is shown administer a dose of castor oil to clean out the bowels of any irritant such as undigested food, or give enemas of warm water and teaspoonful of witch hazel to pint of water. The food should consist of raw egg, boiled arrowroot and milk, rice, etc. Medicinally any of the following can be given:—Tincture of catechu or kino and prepared chalk, the dose being regulated according to size, weight and age of the animal. Formulas for suitable preparations are as follows:—

I		III	
Opil pulv.,		Chlorodyn.,	℥x. —xx.
Acaciæ ...	aa. gr. ss.—ij.	Sod. bicarb.,	
Kino pulv.,		Cret. præp.	aa. gr. xx.
C a t e c h u		To be given in water twice	
pulv. ...	aa. gr. ij.	or thrice daily.	
Zingib. pulv. ...	gr. ij.	IV	
Excip. ...	q.s.	Ipecac. pulv.	... gr. xx.
II		Sod. bicarb.	... gr. xx.
Salol ...	... gr. ij.	Syrup. limon.	5ij.
Bismuth subnit.	... gr. xv.	To be given every eight	
Cret. arom. ...	... gr. x.	hours, dose to be diminished	
To be given every three		as recovery takes place.	
hours till relieved.			

Retrospect of Fifty Years Ago

Reprinted from
"The Chemist and Druggist," December 15, 1879

"You Dirty Boy"!

The Dirty Boy who, with his estimable grandmamma, achieved so much fame at the Paris Exhibition of 1878 was no myth, nor was his painful experience of soapsuds and scrubbing a mere flight of fancy fashioned into solid marble by the clever artist, Giovanni Focardi. Focardi was an Italian sculptor, who, in the course of his wanderings, had found his way to Preston. There, a few years ago, he occupied a modest apartment, and exercised his skill in such work as was open to him. One day, having failed to get the attention of his landlady when he wanted something, he set out in search of her. He found her with her grandson in the back kitchen in the attitude and occupation which is now familiar to the civilised world. Focardi has a keen eye for the comic, and he at once saw his chance. He sketched the scene and noted it for the future. Circumstances soon brought him to London, and as soon as he could he had the old lady and the boy up also. The clay model was made from life, and the process was one of considerable discomfort to the more youthful hero of the group, who, while being taken, had to be kept up to the required pitch of expression by the constant threat and the occasional administration of pails of water.



[Commenced C. & D., July 5, 1924]

Saponin is a vegetable product used in medicine as a frothing agent and as an emulsifying agent for fixed oils and tar preparations for external use. A satisfactory emulsion is obtained by the use of four grains of saponin in 120 minims of distilled water, shaken with one ounce of fatty oil. Substances which "break" gum acacia emulsions do not affect saponin emulsions. The commercial article is obtained from powdered quillaia bark by boiling with water until exhausted. The decoction is evaporated to dryness and then boiled with alcohol under a reflux condenser. Saponin is deposited on cooling. Boiling and cooling is repeated until the saponin is quite white. It is a colloidal glucoside or mixture of glucosides with a sweetish taste, which turns bitter and has a burning sensation. The dust is extremely irritant. Treatment with two drops of acetic anhydride followed by one drop of sulphuric acid turns it a bright red. It is soluble in water; this is increased by addition of a little alkali. A 1 in 1,000 solution froths, but the froth is dispersed by alcohol or ether. It is also soluble in hot alcohol and slightly in cold alcohol. It is not soluble in ether, chloroform, benzene and carbon disulphide. Pure saponin is non-sternutatory and is not poisonous. The commercial article, however, contains quillaic acid and sapotoxin, both of which are acid and poisonous. The commercial article also contains quillaia-saponin, lactosin, and a carbohydrate. Saponin is a constituent of many plants and occurs in various forms and in different parts of the plants.

Sarcocollactic Acid was discovered by Berzelius in 1808 in meat extract, and was later identified as the dextrorotatory isomer of ordinary lactic acid. It occurs in many tissues of the body, especially in the muscles, where it is formed by the breaking-down of glycogen during muscular activity, and it is on this account a compound of considerable physiological importance. It can be prepared from ordinary inactive lactic acid by fractional crystallisation of the strychnine salt, but is best obtained from meat extract. Alcohol is added to an aqueous solution of the extract, the mixture filtered and evaporated to a syrup. This process is repeated, and the acid is then precipitated with dilute sulphuric acid and extracted with ether. As thus obtained, it is a hygroscopic syrupy liquid, but it can be obtained as a white crystalline solid by evaporation under greatly reduced pressure. The solid melts at 25°-26°. It is sometimes known as *para*-lactic acid. The acid and its salts are very similar as regards chemical properties to the corresponding compounds of inactive lactic acid. The aqueous solutions of the salts are levorotatory. Thus for sarcocollactic acid itself in 10.5 per cent. solution $[\alpha]_{15}^D = +3.82^\circ$, but for the calcium salt in 5.35 per cent. solution $[\alpha]_{15}^D = -5.48^\circ$. The acid can be distinguished from inactive lactic acid by means of the blue precipitate produced with copper sulphate solution, whereas the inactive isomer gives a blue coloration only. This test is utilised in the B.P. 1914 to show that lactic acid B.P. is free from sarcocollactic acid, which is liable to be produced during the manufacture of the former by fermentation.

Sarcocolla.—A vegetable product exuding spontaneously from various species of the genus *Penaea*, small shrubs growing at the Cape of Good Hope, in Ethiopia and in Arabia. It yields sarcocollin, a substance the nature of which lies between a gum and a sugar. This has a peculiar taste, bitter and acrid, and is said to be purgative. It was formerly used to heal wounds and ulcers by external application.

Sarothamnine.—An alkaloid isolated by Valeur in 1918 from broom tops, *Cytisus scoparius*. It is a non-volatile unsaturated base, having the formula $C_{15}H_{24}N_2$. It forms crystalline addition compounds with several organic solvents, e.g., with chloroform ($C_{15}H_{24}N_2 \cdot CHCl_3$, m.p. 127°; and with alcohol ($C_{15}H_{24}N_2 \cdot C_2H_5OH$, m.p. 49°).

Sarsaparilla.—This drug was introduced into Europe from the West Indies about the year 1530 as a medicine singularly efficacious in the treatment of *lues venerea*. When the Spaniards saw it they recognised a family likeness to their own *çarça parilla*, or *zarza parilla* (*Smilax aspera*), from *zarza* a bramble, and *parilla* a vine. Several different kinds of sarsaparilla are met with in commerce, most of them derived from species of *Smilax* that have not been accurately identified by botanists, due to the fact that the plants are dioecious and can only be identified from a female plant. The plants are woody climbers, mostly with an angular stem, and climbing to a considerable height on trees, and thus it is difficult to obtain botanical specimens in flower. The pharmacist must depend, therefore, upon the characters of the root as met with in commerce. The method of packing is characteristic of each kind, so that it is better to buy sarsaparilla by the bundle or original package than to buy it already cut up for use. The varieties mostly used in this country are known as the genuine grey Jamaica, the native red or pale brown and yellow Jamaica, the Lima-Jamaica, Mexican or Vera Cruz, and Honduras. The so-called genuine grey Jamaica sarsaparilla is now attributed to *Smilax ornata*, Hook. f. This is apparently a native of Costa Rica and Colombia, and owes its name merely to the fact that it was formerly exported *viâ* Jamaica, but it is now largely shipped from Boca del Toro, Costa Rica. It occurs in bundles about eighteen inches long, 5-7 in. wide and about 3 in. thick. They are characterised by the reddish character of the bark, which is shrunken but not cracked transversely. The cut cortex shows a dark reddish colour. Another variety, called Jamaica sarsaparilla, is distinguished as native or cultivated Jamaica sarsaparilla, is both wild and cultivated, and is grown in that island. It is attributed to *S. officinalis*, H. B. & K. It arrives packed loosely in bales or press packed, and varies from an orange to pale red, the commoner descriptions being pale yellow and grey mixed, bearing comparatively few, rather stout, fibres or rootlets, and in transverse section shows a pale cortex separated by a distinct line from a darker stele. Lima sarsaparilla is imported from Panama in rather longer but narrower bundles than those of the Jamaica kind, but bears close resemblance to the latter in the red colour of cortex and abundance of root fibres. It is also imported from Guayaquil and sometimes Valparaiso. Occasionally a chump or rhizome with round stem and long, smooth, wiry brown wood fibres is found in a package of the Lima sarsaparilla. The Lima sarsaparilla is considered in the wholesale drug trade as a sort of second quality allied to genuine grey Jamaica sarsaparilla, as it generally yields rather less extract, but resembles the Jamaica root in appearance. Honduras sarsaparilla is imported from Belize and other parts of the bay of Honduras and New York. It comes in large and smaller bundles about two or three feet long, folded lengthwise in a form of a hank and held in a compact state by a few circular turns of the root. The large bundles may be 2½ ft. long, 10 or 12 in. in diameter, and weigh about 17 lb. The smaller bundles are about 2 ft. long, 3 in. in diameter and weigh about 2 lb. The roots have very few rootlets and the general colour is dirty greyish-brown. The cortex is very mealy and thicker than in the Jamaica kind. The taste of the root is, as a rule, more acid than the other kinds. It is found that roots of fine quality yield about a pound of extract from five pounds of root. This kind is generally preferred on the Continent. The extract is mostly contained in the thick cortex. The larger packages are sometimes found to be of inferior quality and have been found to contain stones, stems, or chumps of wood, etc. The Mexican or Vera Cruz sarsaparilla, which is regarded as a third quality of the drug, is stated to be the produce of *Smilax medica*. The ordinary kind is named lean Vera Cruz in distinction from the thick or gouty Vera Cruz

The C.&D. Commercial Compendium

kind, or Caraccas sarsaparilla. The lean kind is generally imported from Vera Cruz in bundles about two feet long, and at the widest part at the upper end where the chump is attached, 7 in. broad, so that the bundles have a more or less tapering shape. The roots are straight, not folded. The gouty Vera Cruz sarsaparilla, known also as Caraccas sarsaparilla, is characterised by its thick roots, but there is not much sold in this country. It is stated to go to the United States from La Guayra, which is the port of the Caraccas, and is hence also known as Caraccas sarsaparilla. The Brazilian sarsaparilla is in large rolls weighing sometimes 14 lb., about 3 ft. in length and 7 in. in diameter, and is free from the rhizome or chump. It is packed in thick cylindrical bundles with the stems closely wound round it. It is stated to be derived from two species, namely *Smilax papyracea* and *S. syphilitica*. Two varieties are distinguished, one under the name of Sarsa fina, and the other, a thicker root, known as Sarsa gruesa, which is attributed to *Smilax cordato-ovata*, but there is comparatively little certainty as to the actual species yielding the roots. The Brazilian sarsaparilla is more often used in France than in this country.

CONSTITUENTS.—The chief constituent of sarsaparilla is a crystalline glucoside called sarsasaponin. It also contains sarsapic acid and resin, etc. It has been assumed in many medical works that sarsaparilla has no therapeutic value, but its extensive use in Central and Southern America as well as in most European countries indicates that its reputation in syphilitic and other diseases probably has some foundation. Like other drugs containing saponin, it possesses hemolytic properties. Kobert has shown that the hemolytic action of Honduras sarsaparilla is about eight times that of the Jamaica sort. There is no doubt that the saponins as a group need a thorough research with regard to their therapeutic properties, which would probably throw light on the action of many drugs said to act as alteratives. With regard to the species yielding the different kinds of sarsaparilla these may, some of them, be distinguished by the microscopical characters of the cells of the nucleus sheath. Excellent illustrations of these cells in the Honduras and Vera Cruz varieties are given in Pereira's "Materia Medica," to which the reader may be referred for further details concerning this so widely used but little understood drug. Good illustrations are given in the same work of the imported bundles of Jamaica, Lima, lean Vera Cruz and Honduras sarsaparilla, as well as those of Brazilian and Caraccas, which are rarely imported into this country.

Sassafras Oil is distilled from *Sassafras officinale*, which is widely distributed over America, from Canada to Florida and west as far as Kansas and North Mexico. In Canada the tree rarely grows to a greater height than 30 feet, but further south it often grows from 50 to 80 or even 100 feet. The wood of the roots, especially the root bark, is the richest part of the plant for the production of oil, and more so when the sap is dormant. The root wood yields about 1 per cent. of oil, while the root bark yields from 6 to 9 per cent. of oil. This oil is almost water-white to pale yellow, of characteristic odour, and having the following properties:—Specific gravity, 1.070 to 1.082; optical rotation, $+2^\circ$ to $+4^\circ$; refractive index, 1.5290 to 1.5325; acid value, 0; ester value, 1 to 2; solubility, 1 in 2 of 90 per cent. alcohol. Sassafras oil owes its odour almost exclusively to safral, of which it contains about 80 per cent., with 10 per cent. of pinene and phellandrene, 7 per cent. of camphor, and traces of eugenol and sesquiterpenes. The sassafras oil of commerce is usually adulterated with the heavy fractions of camphor oil, which are rich in safral. The leaves of the sassafras tree yield about 0.3 per cent. of an essential oil, with a pleasant lemon odour. It has a specific gravity of 0.872, and an optical rotation of $+6^\circ 25'$. It has been found to contain α -pinene, myrcene, phellandrene, a paraffin hydrocarbon, a sesquiterpene, linalol, geraniol, and the acetic and valerianic esters of these two alcohols. There also are a number of trees, having no botanical relationship with true sassafras, but which yield essential oils, having a similar odour.

Saturation.—A substance is said to be saturated when it has absorbed, dissolved or combined with the greatest possible quantity of another. In chemistry a saturated compound is one in which the maximum combining capacity of its constituent atoms is exerted. In pharmacy saturation of two kinds is important. First, the amount of a substance required to form a saturated solution, and second, the quantity of an acid required to saturate an alkali. The amount of a substance required to make a saturated solution varies with the temperature and the particular solvent used. In general, salts are more soluble in hot water than in cold. Hence in dispensing care must be taken, when warming to effect more rapid solution of an ingredient, that the strength of the solution shall not be above saturation point when the mixture has cooled to normal temperature. Super-saturation must also be guarded against. A super-saturated solution of sodium sulphate, for example, can be obtained by preparing a saturated solution at a high temperature, filtering, and allowing it to cool without disturbance. The whole of the dissolved substance will remain in solution at the lower temperature, but the least disturbance will cause it immediately to throw out the excess solute. Knowledge of the amount of an acid required to saturate an alkali, and vice versa, is often required for the dispensing of effervescing mixtures, and those in which the prescriber intends chemical action to take place between acid and alkaline salts. A table of the saturation equivalents of the commoner acids and alkalis will be found in the "Art of Dispensing" in the section on Mixtures.

Savin Oil is obtained from the twigs of *Juniperus sabina*. The yield is from 3 to 5 per cent. The oil separates into three main fractions on distillation. The first boiling below 195° contains furfural, di-acetyl, and methyl alcohol, but chiefly consists of terpenes, namely sabinene and terpinene, with small amounts of pinene. The second boiling between 195° and 235° consists of ethereal salts. The third boiling between 235° and 310° consists mainly of the sesquiterpene cadinene with some resinous bodies, which may, however, be the result of heat on the terpenes. From the second fraction some 10 per cent. of an oil, termed by Parry sabinol, boiling at 222° – 224° is obtained, which is the acetate of an alcohol $C_{20}H_{36}O$. This alcohol is a colourless oil boiling at 210° – 213° , with only a faint odour. From the higher boiling ester fraction a liquid dibasic acid, $C_{20}H_{36}O_4$ (b.p. 255°), and a solid acid, $C_{18}H_{30}O_4$ (m.p. 181°). There is also present a small amount of either a ketone or an aldehyde, b.p. 220° – 250° , with a hydrazone, m.p. 41° , and an oxime, m.p. 85° . Citronellol has been found present and also geraniol, dihydromucic alcohol, and traces of normal decyl-aldehyde. Both the levo- and dextro-rotatory sabinenes have been isolated. The constants of sabinol are:—B.p. 208° – 209° ; sp. gr., 0.9391–0.9518; ref. index, 1.4895; opt. rot., $+7^\circ 36'$. Savin oil is soluble in 5 to 15 vols. of 80 per cent. alcohol, but not always to a completely clear solution. A so-called savin oil of French origin is sometimes found on the market which is probably distilled from *Juniperus phænicea*. This contains a large amount of pinene. The constants of this oil and of savin oil are:—

	Savin oil	Oil from <i>J. phænicea</i>
Specific gravity	0.907–0.930	0.863–0.892 (usually not above 0.875)
Optical rotation	$+38^\circ$ – $+63^\circ$ (occasionally -68°)	$+2^\circ$ to $+8^\circ$
Refractive index	1.4720–1.4800	—
Acid value	0–3	—
Ester value	105–140	0–26 (usually not above 5)
Do. after acetyl.	125–155	5–60 (usually not above 20)

Savin oil was formerly official in the B.P., but has not been included since 1885. It is of limited use in medicine as a uterine stimulant and emmenagogue. It has been known to be used criminally.

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MALE FERN EXTRACT



F. W. BERK & CO. LTD.

Telephone : Monument 3874. Wires : "Berk, Phone, London."

106 FENCHURCH STREET, LONDON, E.C.3

Works : Stratford, E.15, and Morriston, Glam.

A UNIQUE RECORD

A Customer wrote us that he first used

H. A. THOMPSON & SON'S CHEMICAL FOOD
50 YEARS PREVIOUSLY

and goes on to say :—"Since when I have never been without it, and have never found it wrong."

Prepared only by
WILLOWS, FRANCIS, BUTLER & THOMPSON, Limited, 73, 75 and 89a Shacklewell Lane, LONDON, E.8.
Phone : Clissold 6361 (4 lines). Telegrams : "Forty Kinland, London."

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Phone : Central 7130

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WORKS :

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Epsom Salts Needle Crystals, Pea Crystals,
Medium, Desiccated, Ground,
B.P., and Commercial.

Glauber Salts Feather and Pea Crystals,
Special and Purified Qualities,
B.P., Commercial & Desiccated.

Hyposulphite of Soda Pea Crystals
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Alum (Ground), Carbonate of Soda, Crystals (Photographic),
Precipitated Chalk, Sulphate of Lime, Bicarbonate of Soda.

YOUR ENQUIRIES ARE INVITED.

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Fine Chemicals Opium Derivatives

ALOID	DIAMORPHINE	LEPTANDRIN
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Goods covered by Dangerous Drugs Acts offered subject to all regulations.

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BLANDFIELD WORKS: 25 CHRISTOPHER STREET: 32 & 34 VIRGINIA STREET
EDINBURGH. : LONDON, E.C.2. GLASGOW.

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WE ARE NOW OFFERING SUPPLIES OF

RASPBERRY VINEGAR

manufactured from
THIS SEASON'S FRUIT

Our Product is of **SUPERLATIVE** Quality
and is guaranteed

1. To be made from pure fruit juice and pure cane sugar without the addition of any artificial flavouring agents or preservatives.
2. To keep indefinitely without fermentation or deposit.
3. To meet the requirements of the Food and Drugs Act and New Pure Food regulations.

SOLD ONLY IN BULK
IN WINCHESTERS, CARBOYS AND CASKS.

Sample and Price upon application

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GADSBY WORKS, LTD.
STOCKPORT, Cheshire

Telephone:
601 (3 lines)
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ESTABLISHED
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Telegrams:
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STERLING BRAND CHEMICALS

Bismuth Carb.
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Ether for anæsthesia
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Contractors
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227-229 ESSEX ROAD,
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Telegram: "Carnebros, London." Telephones: Clissold 3560 and 2318.



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CITRIC ACID

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PRECIPITATED CHALK

CALC. CARB. PRECIP.

for Dentifrice Pastes, &c.



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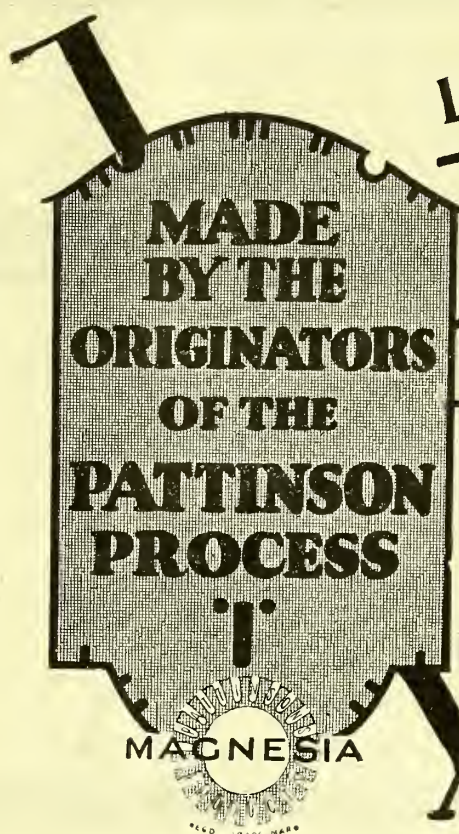
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Light Carbonate of Magnesia

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Ponderous
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88 YEARS RESEARCH
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“Throughout this long period ‘Pattinson’s’ Magnesia Products, as manufactured by the Washington Chemical Co., Ltd., have occupied the premier position in the Magnesia World, by reason of their purity, lightness and uniformity.”

*Buy from the originators
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"MERCK"

H. R. NAPP LIMITED
3 & 4 CLEMENTS INN, LONDON, W.C.2

Telegrams: "NAPPCHEM LONDON."

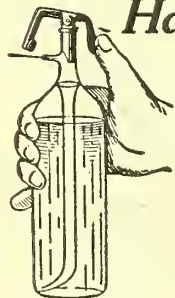
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"Thilocologne"

"DR. THILO" (Name registered)

Ethyl Chloride Cum Eau de Cologne

Has Caught On.



Observe Thilo's New Syphon Bottle.

Absolute Chemical Purity.
Competitive Prices.



Observe Thilo's New Drop Nozzle for General Anaesthesia.

Now used extensively by
DENTISTS.

HOSPITALS. GENERAL PRACTITIONERS.

Ask for prices and free sample tube for demonstration.

W. BREDT, 41 Gt. Tower St., London, E.C.3
(Sole Concessionnaire for the U.K. and Ireland).

GOLDEN SEAL ROOT

(Hydrastis)

We are large handlers of Golden Seal Root (Crude) at wholesale. If in the market to buy it will pay you to communicate with us by mail or cable.

DAVID BLUSTEIN & BRO. INC.
162 West 27 Street
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Cable Address:
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Codes Used:
ABC Fifth Edition, Bentley's

GLYCERINE

The chemically pure glycerine supplied by us is guaranteed to comply with all the requirements of the Food and Drugs Act and the British Pharmacopoeia.

PRECIPITATED CHALK. Finest and lightest, also heavy grades.
COD LIVER OIL. (Finest Lofoten.)
CASTOR OIL. **OLIVE OIL.**
DECOLORISING CARBON.
PERSULPHATES: Ammonium, Potassium & Sodium.

HALLER & PHILLIPS, LTD. (Established as GEO. HALLER & CO. in 1878)
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Phones: London Wall 4456/7. Tel. Add.: "Haloid, Stock, London."

WHEELER & HUISKING, LTD.

26, GREAT TOWER STREET,

LONDON, E.C.3.

(ESTABLISHED OVER 30 YEARS.)

**AMERICAN BOTANICALS,
ESSENTIAL OILS, BALSAMS,
SPICES, DRUGS, GUMS,
CHEMICALS.**

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SENEGA CASCARA

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ESSENTIAL OILS

(CARAWAY PEPPERMINT LEMON ORANGE)

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SPICES - GINGER CINNAMON

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CHEMICALS—OFFERS INVITED

RUSSIAN LICORICE ROOT

SINGLE AND DOUBLE PEELED

Direct Importers from Russia

RICHARD BRÜCKNER**HAMBURG 8.**

Authorized Sole Sellers of the RUSSIAN TRADE DELEGATION

QUININEQUINIDINE
CINCHONINE
CINCHONIDINE

and

SALTS

Sugar-coated Quinine Tablets and Pills.

Gelatine-coated Oval Pills.

BANDOENG
JAVA**BANDOENG QUININE FACTORIES**AMSTERDAM
De Wittenkade 48-50.

Telegrams: "Kininefabriek Bandoeng."

Samples, prices and particulars on application.

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PASTILLES

LIQUORICE & MENTHOL

Glossettes
REGD.Compressed
TabletsPACKED OR IN BULK, FOR WHOLESALE,
— RETAIL AND EXPORT TRADES. —

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London Office: Plantain Place, Crosby Row, Boro', S.E.1

Works: CREDITON, Devon.

Phones: Hop 2663 and Crediton 10.

Tablets

Enquiries are invited for

ASPIRIN AND CASCARA
TABLETS

IN BULK OR PACKED.

A Customer writes:—"Re Aspirin Tablets. Your sample was one of the best we have ever had, we anticipate doing good business with you if you can maintain that quality."—WE CAN, AND MEAN TO!!

LET US QUOTE YOU.

CASTLE HUSKISSON, LTD.

Manufacturing Chemists,

Swinton Works, Moon St., Islington, N.1

ESTAB. 1768.

Private formulæ Pills and Tablets carefully and accurately prepared at lowest possible prices.

Pills

Ampoule Files

THE GREATEST PRODUCTION IN THE WORLD
THE BEST. THE CHEAPEST.Prices and Samples sent on application to
SIM Ltd., Morges, Switzerland.*ERGOAPIOL*
(Smith)Protective Mark.
Patented in U.S. and
Foreign Countries.

Ergoapiol (Smith) is identified by the letters "M. H. S." raised in the gelatin on the inside of each capsule—thus—



Capsule cut in half thru the seam, showing initials.



Capsule intact, showing no mark objectionable to the physician.

[Ergoapiol (Smith) is to be had only in packages of twenty capsules each—never supplied in bulk or other form.]

MARTIN H. SMITH CO., New York, N. Y., U. S. A.

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OF

TABLETS

PILLS

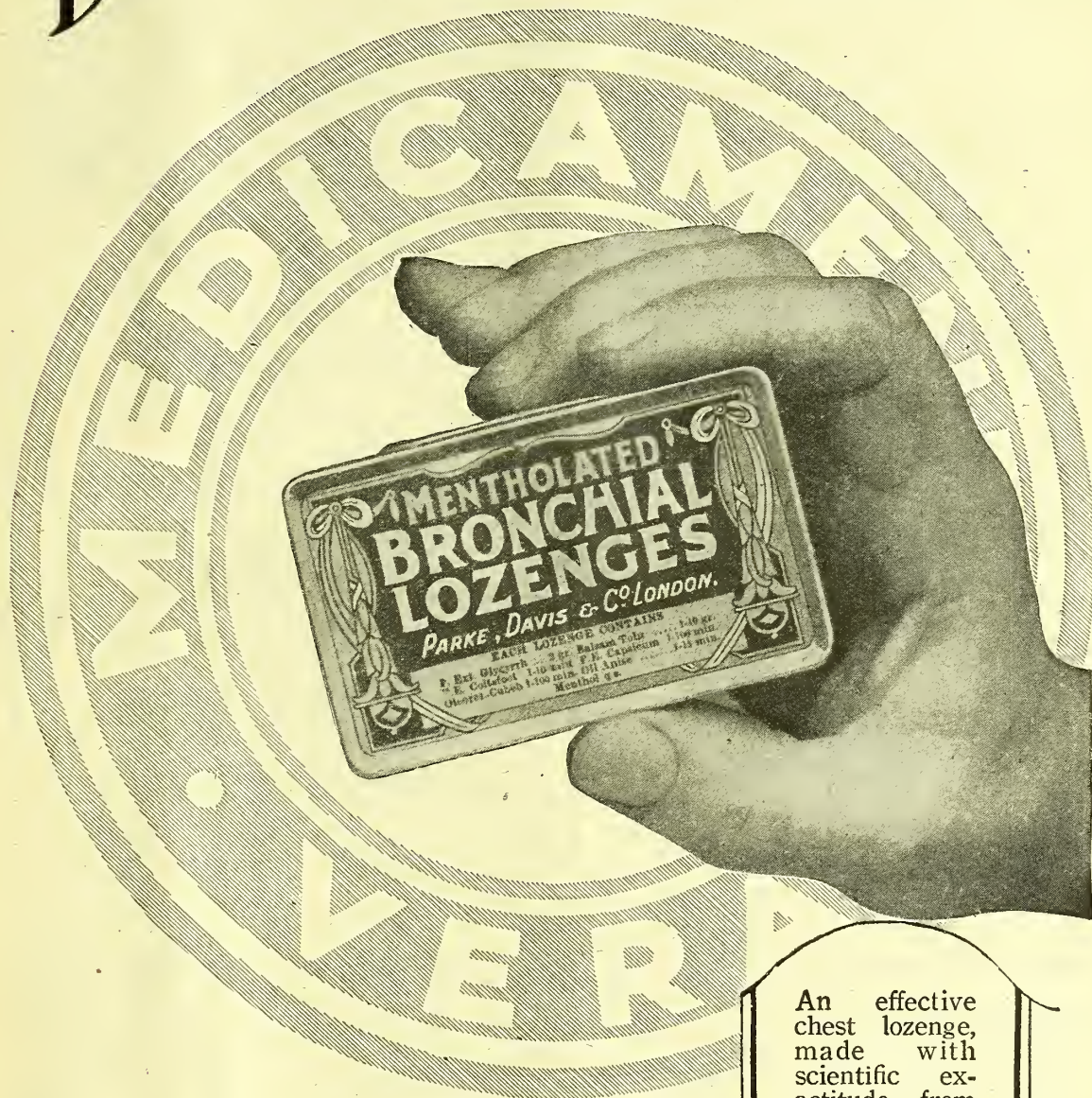
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WRITE FOR QUOTATIONS AND LIST
PRIVATE FORMULÆ A SPECIALITY

HOWARD LLOYD & CO., LTD., LEICESTER

Behind Each Tin

The Seal of Security



M.R.P.....1s. 0d. per tin

Send for Terms

An effective chest lozenge, made with scientific exactitude from the purest materials. Allow a good profit and—most important—worthily maintain any pharmacist's reputation.

The ANGLO-FRENCH DRUG CO. Ltd.

We have recently introduced to the Medical Profession

ACETYLCHOLINE

A New and Powerful Vasodilator.

Indicated in Arterial Spasms. Raynaud's Disease. Endarteritis Obliterans.
Trophic Disturbances.

This product is marketed under the name of -

ACÉCOLINE

and is supplied in boxes of 6 ampoules in doses of 2, 5, 10 and 20 ctgs.

Concise List of Products and new Price List on request.

238a GRAY'S INN ROAD, LONDON, W.C.1

Telephone: MUSEUM 4029.

Telegrams: AMPSALVAS, LONDON.

Speton— the Prophylactic Tablet



A scientific preparation—
originally known as Sperma-
thanaton—entirely free of
quinine and cacao butter
and endorsed by the
Medical Profession.

Retails at 2/9 per tube.

Liberal Discounts.

Sole Concessionaires for U.K. and Dominions :
COATES & COOPER
41, Gt. Tower St.,
London, E.C.3

Trade

SPETON

Mark

Brand

Antiseptic

Manufactured by Th. Temmler Chemical Works, Berlin



ARE YOU SELLING

CROMESSÖL

If not—may we send you
full particulars and terms?
THE CROMESSOL CO., 148, BRAND STREET, IBROX

BUDNIP POWDERS

A well-advertised line. Can be stocked with every confidence. Retails
at 1/3. Shows excellent profits. Show matter and counter bills gladly sent
on receipt of p.c. Obtainable from your usual wholesaler, or from

BUDNIP Ltd., Budnip House, OLDHAM

Telephone - - - Oldham 2136

The Profit's the thing

A steady profit is assured if you stock

CONSTIPON

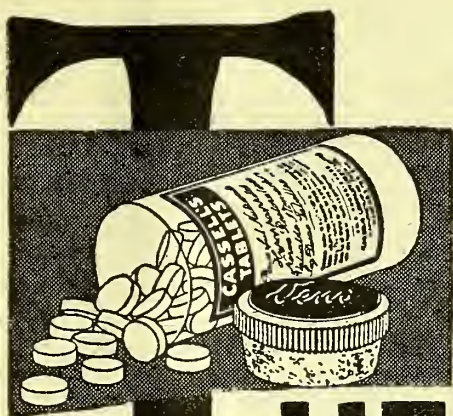
The demand is good, and
sales are increasing daily.

TABLETS per box 3d., 6d. & 1/-

Stocked by Scottish Wholesale Druggists.

CONSTIPON

65 West Regent Street, Glasgow.



THEY SELL CONSISTENTLY — BECAUSE THEY HAVE PROVED THEIR *SUPERIORITY*.

People have come to know that Cassell's Tablets accomplish everything they are advertised to do. Once they've tried them, they will certainly become regular purchasers. Forceful advertising appearing in the leading national dailies, in a long list of provincial papers and magazines, is graphically telling, telling, telling thousands of homes of the great tonic and restorative qualities of Cassell's Tablets. People in your neighbourhood are reading all about Cassell's. Are you adequately stocked to meet every demand? Cassell's are the largest and most extensively advertised proprietary in the Drug Trade. Cassell's offer you an all the year round profitable turnover, ready, steady, sure.

CASSELL'S TABLETS

Link up with our advertising and increase your daily business—send for the very attractive show material which we have prepared for your window and counter. A postcard will bring it to you by return post.

**ORDER THROUGH YOUR WHOLESALE, OR DIRECT
FROM THE BEECHAM-VENO CENTRAL DISTRIBUTING
DEPOT, CHESTER ROAD, MANCHESTER.**

CHILL WINDS are TRADE WINDS
to the Chemist who Stocks

IRVING'S Yeast-Vite TONIC TABLETS

OUR NATION-WIDE ADVERTISING is creating an unprecedented demand.

A well-known Manchester Chemist, when sending us a large order recently, writes as follows:—

"Might I mention at the same time that it is a pleasure to sell a line like yours which bears such a good profit and sells so freely."

LOOK at the profit on a Special 14 day Window Show Parcel. Sent Carriage Paid together with BONUS and FREE Display Material.

		COST.		SELLS.	
6 doz. 1/3 size @ 12/-	..	£3 12 0	..	£4 10 0	} £5 PARCEL (P.A.T.A.) 46% PROFIT 30 days CREDIT
1 " 3/- " @ 28/10	..	1 8 10	..	1 16 0	
	..	£5 0 10	..	£6 6 0	
BONUS 12 only 1/3	..	free	..	15 0	
2 " 3/-	..	free	..	6 0	
30 days NETT	..	£5 0 10	..	£7 7 0	PROFIT £2 6 2.

LATEST SHOW MATERIAL to link up with our huge Advertising sent FREE and POST FREE. State whether required for Small, Medium or Large Display.

IMPORTANT.—Our new Factory is in full swing, but we are taxed to the utmost in meeting all demands. Order NOW to avoid losing sales.

IRVING'S YEAST-VITE, LTD., WATFORD, HERTS.

Telephone:—WATFORD 1475 & 806 (5 lines).

Telegrams: YEAST-VITE, WATFORD, HERTS.

FREEMAN'S Chlorodyne

The ORIGINAL and BEST. Extensively used throughout the world since 1844.

Best for the Public—Best for YOU—all-ways.
DOES NOT REQUIRE CUSTOMER'S SIGNATURE.

Cable Address: "Chlorodyne, London."



'Vitality Pips'

A wonderfully efficient Tonic. Especially prescribed.
P.A.T.A. Retail Prices 1/3 and 3/-

YOUR PROFIT 33% ON COST.

A Packet on the counter is a real money magnet.

HENRY'S CALCINED MAGNESIA

Continues to be prepared with scrupulous care in the greatest chemical purity by
Messrs THOMAS & WILLIAM HENRY, 11, East Street, St. Peter's, Manchester.
And is sold in Bottles, authenticated by a stamp bearing their name.
New York: Messrs SCHIEFFELIN & CO, William Street. **PRICE 2s. 9d**
Trade Mark, "Henry's Calcined Magnesia"
Paris: Messrs. ROBERTS & CO. S. Rue de la Paix.



'Petrolagar'

(Regd. Trade Mark)

FREE OFFER.—You may have one 8-oz. bottle free with one dozen 8-oz. size, any assortment, or one 16-oz. bottle free with one dozen 16-oz. size, any assortment (not a mixed dozen of large and small).

Obtain the best terms by ordering 'Petrolagar'
Brand Emulsion in dozen lots from your wholesaler.

PETROLAGAR LABORATORIES LTD., BRAYDON ROAD, LONDON, N.

'Phone: CLISSOLD 7572.

Red Diamond Bronchial Lozenges



R Ext. Glycyrrhizæ. Ext. Tussilaginis. Ext. Capsici. Bals. Tolu.
Ol. Menth. Pip. Ol. Anisi. Oleoresin Cubebæ.

Whilst the efficacy of these tablets and the speed with which they act may mean that "repeat" requests are rarely necessary, the recommendations of satisfied customers will bring many fresh purchasers to your pharmacy.

Tins of 32 6/6 Dozen. 72/- Gross.

Supplied in Counter Display Boxes of One Dozen; Strutted Showcard with all orders.

OTHER SEASONABLE PREPARATIONS FOR WHICH SMART AND ATTRACTIVE SHOW MATERIAL IS AVAILABLE ARE:

"Stirrup Cup" Ginger Wine Essence, Glycerine Lemon and Honey, Winter Skin Lotion, Zotal Liniment, Influenza and Cold Capsules, Chilblain Cream, Pectorine Cough Tablets, Pyzonic Bath Salts.

BURGOYNE, BURBIDGES & CO., LTD.

Manufacturing Chemists, LONDON, E.6

ESTABLISHED 1741.

For OVER 75 YEARS

Dr. J. Collis Browne's
CHLORODYNEhas maintained a
WORLD-WIDE REPUTATIONto-day's demand being
greater than ever.**ARE YOU GETTING
YOUR SHARE OF
THIS INCREASE?**Be sure you hold stocks
to meet the demand and
remember that**Dr. J. Collis Browne's**
CHLORODYNE**IS ONLY SOLD THROUGH CHEMISTS**

SIZES 1/3, 3/-

Order from your Wholesaler
with other goods.

SOLE PROPRIETORS:

J. T. DAVENPORT Ltd.

UNION STREET, S.E. 1.

"Letters of Mark"—



B.P.
BOX'S PILLS
for the
British Public
per the
British
Pharmacist

On P.A.T.A. LIST
In 1/3, 3/-, 5/-, 12/- and 22/- boxes

Box's Pills have a special public of their own—many of whom have had to go considerable distances to obtain their favourite medicine, or to order from Plymouth, for lack of a local source of supply. Pharmacists are now co-operating in distribution of Box's Pills in increasing numbers, and healthy local demand is developing. Stock them and show them and you will sell them. Display outers and other attractive show material free on application.

Obtainable from Wholesalers, or direct from the proprietor

W. H. BOX
GIANT PILL
MANUFACTORY 161 King St., PLYMOUTH
Telegraphic Address: "GIANT," PLYMOUTH.

Dr. BENGUÉ'S BALSAM**RHEUMATISM, NEURALGIA, GOUT.**

Dr. BENGUÉ'S ETHYL CHLORIDE.
Dr. BENGUÉ'S DRAGÉES.—EUPURGO.
PULMO (BAILLY).—FORXOL.—OPOBYL.
ANESTILE.—NARCOTILE.—HEMOSTYL.
LIPIODOL.—MUTHANOL.—ARHEMAPECTYL.
ENTERO ANTIGENS.—STAPHYLOTHANOL.
NEOPANCARPINE, RICARD'S CACHETS.

BENGUÉ & CO., LTD., MFG. CHEMISTS,
 24 FITZROY STREET, LONDON, W.1.

BONUS OFFER

The Greatest Cough Cure in the World—

"KOF-OH"

P.A.T.A.
 1/3 size approx. 4½ fl. oz. @ 12/- doz. } nett
 3/- " " 14 fl. oz. @ 28/- " } 30
 1/3 tin Tablets - - @ 12/- " } days

ORDERS of 3 doz. 1/3 or equivalent 4×1/3 free,
 6 doz. or equivalent 9×1/3 free for 14 days'
 window display. Carriage paid. Packages free.

KOF-OH CO., LTD. Manufacturing Chemists **EVERTON, LIVERPOOL**

NUMOL

TO CHEMISTS AND THEIR EMPLOYEES

In selling NUMOL some of the most helpful work has been done by Chemists who have become NUMOL enthusiasts through experience of its special merits, and in one case a salesman in a retail shop sold 51 jars of NUMOL in a month in a district where it was practically unknown.

We are at present considering the practicability of launching a scheme to give encouragement to Chemists and their employees who are willing to take a special interest in the marketing of our preparation, and we will give a prize of £10 for the best workable suggestion for increasing the number of NUMOL enthusiasts amongst "Behind the counter" salesmen, and 10 sums of £1 each to the next 10 suggestions in order of merit. Suggestions should be confined entirely to personal selling and not encroach upon the field of general publicity or newspaper advertising, such as that which is at present done by our agents in London.

Competitors must be either Retail Chemists or their employees, and all suggestions must be accompanied by the coupon below and be received in Newcastle not later than 31st January, 1930.

COUPON.

I enter this Competition on the condition that I am willing to accept the decision of the Secretary of NUMOL LIMITED as final and binding.

NAME OF COMPETITOR

.....

.....

If the Competitor is not a Chemist the name of his employer should be stated here.

.....

.....

.....

Attach this coupon to suggestion and post to
The Publicity Secretary, NUMOL, Ltd., Newcastle-on-Tyne.

C. & D.—28.12.1929.

NUMOL

CLARKE'S BLOOD MIXTURE & OTHER PREPARATIONS

Wholesale Prices.

	SIZES.	PRICE PER DOZEN.
Clarke's Blood Mixture	3/- & 12/-	£1 : 7 : 0 & £5 : 8 : 0
„ Miraculous Salve	1/3, 3/- & 5/-	11/-, £1 : 7 : 0 & £2 : 4 : 6
„ Special Aperient Pills ..	1/3, 3/- & 5/-	11/-, £1 : 7 : 0 & £2 : 4 : 6
„ Patent Skin Lotion ..	1/3	11/-
„ Medicated Soap	1/-	9/-

Orders: Minimum quantity £16 : 4 : 0 value.
FREE CASES. Carriage paid upon orders of £100.

All Wholesale Houses keep a large stock of our Preparations and can supply smaller orders promptly.

Minimum Retail Selling Prices: 1/-, 1/3, 3/-, 5/- & 12/- Face Value, giving a PROFIT of 33½% on cost to Distributors.

An attractive Showcard and Dummies supplied on application.

Trade Mark: "BLOOD MIXTURE." Regd. No. 3275.

Sole Proprietors:

THE LINCOLN & MIDLAND COUNTIES DRUG CO., LTD.
Park Street, LINCOLN.

FOR SEXUAL NEURASTHENIA and IMPOTENCE.

TESTOGAN tablets and ampoules.
THELYGAN tablets and ampoules.
YOHIMBIN tablets and ampoules.
LECITHIN-YOHIMBIN pills and tablets.

CAVOSEPT (Vaginal Antiseptic).

FOR RHEUMATISM, GOUT, NEURALGIA, and SCIATIC CONDITIONS.

ATOCIN tablets.

ATOCIN WITH ASPIRIN tablets.

LIPOLYSIN tablets and ampoules for OBESITY.

BISMOLAN suppositories and ointment for
HAEMORRHOIDS.

ELIXIR NEUROGENIC (Cavendish) TONIC
RECONSTRUCTIVE.

For literature and other information apply to:—

CAVENDISH CHEMICAL COMPANY,
137 REGENT STREET, LONDON, W.1

It's going to be a SNOWFIRE WINTER



Snowfire Cream—another Snow-
fire line that will swell your
profits. Please your customers
by introducing them to this
fragrant, non-greasy cream—
a real skin beautifier.

Hands will get chapped, lips
will get cracked, and people
will have Snowfire! And
this year Snowfire sales will
be brisker and better than
ever. Women are reading in
their own magazines and in
the daily papers about Snow-
fire Jelly, the softer form of
the famous emollient. Snow-
fire Jelly will add thousands
to the already huge Snowfire
public. Be ready to secure
your share of the business.

Snowfire TABLET AND JELLY

Made by F. W. HAMPSHIRE & CO. (1927) LTD.
Sunnydale Works, Derby.

Agents—India: Messrs. Siqueira & Son, 121 Fort St., Fort, Bombay.
Australia: Messrs. Salmon & Spraggon (Australia) Ltd.
218 Kent St., Sydney, N.S.W.

'ASPRO' And The R.P.U.



DIFFERENCES ADJUSTED BIG PROGRESSIVE MOVE For 1930 Back Bonuses Made Good. Increased Advertising

We are glad to state that the differences between 'ASPRO' and the R.P.U. have been overcome. We understand the R.P.U. have circularised all chemists making the announcement.

We take this opportunity of thanking all those who participated in bringing about this harmony which must mean profit instead of loss—progress in place of inaction.

1930 should be a record breaking year for 'ASPRO' chemists' sales, as we are glad to announce that large increases are being made in our already extensive advertising appropriation (the largest in the world). Chemists will appreciate that our advertising and sales methods are not mere flashes in the pan but continuous and progressive.

Free from restrictions, members of the R.P.U. will now be able to get full advantage of the advertising by showing our business-getting window displays which are a great factor in linking up with the advertising, and be able to buy on the 'ASPRO' liberal bonus terms which yields an average extra 17% profit.

Back Bonuses to be Made Good

We have received letters from a large number of chemists referring to bonus cards they hold, and for which they have not been able to fulfil the conditions on account of the late differences with the R.P.U. We announce, therefore, that all bonus cards held by chemists since August last, will be redeemed in stock by us just the same as if the conditions had been fulfilled. We suggest that you send in your bonus cards immediately and also start the New Year with a bonus order, and get the habit of buying on bonus terms thereafter. One chemist customer states that he has lost £200 through not being able to send in his bonus cards.



NEW WINDOW DISPLAYS PRINTED IN 12 NATURAL COLOURS

Send Post Card requesting New Display Features

We give an illustration herewith of our new window cards, Man, Woman and Child. They are very lifelike and very artistic, and in conjunction with the motto cards and cartons make one of the most attractive displays we have yet introduced.

It is our hearty wish that chemists have a very prosperous and progressive New Year. All our efforts and experience are at the disposal of chemists and their associations to further business at any time in mutual interest. About the time you read this you will have received a letter from us, together with a stamped addressed card so as to make it easy for you to order.

Remember! 17% Extra Profit when you Buy on Bonus Terms

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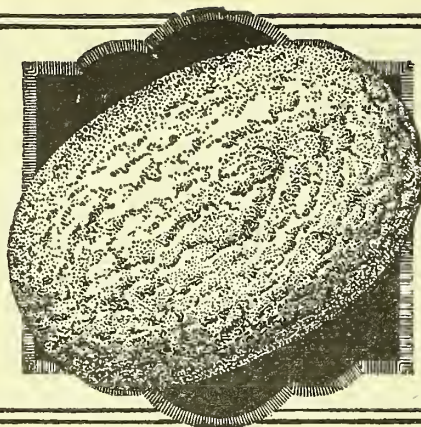
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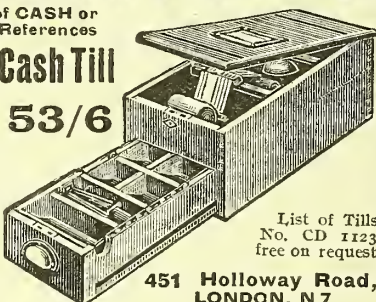
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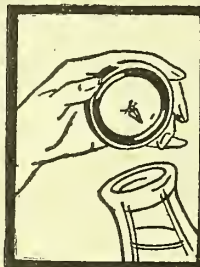
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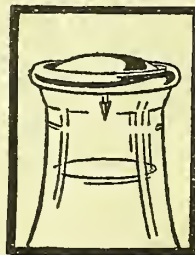
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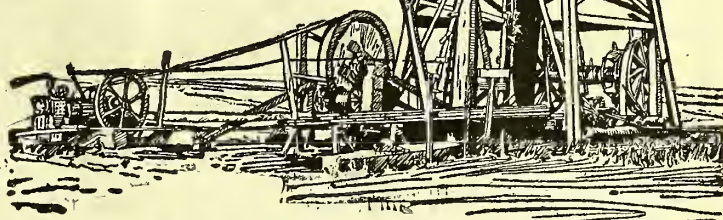
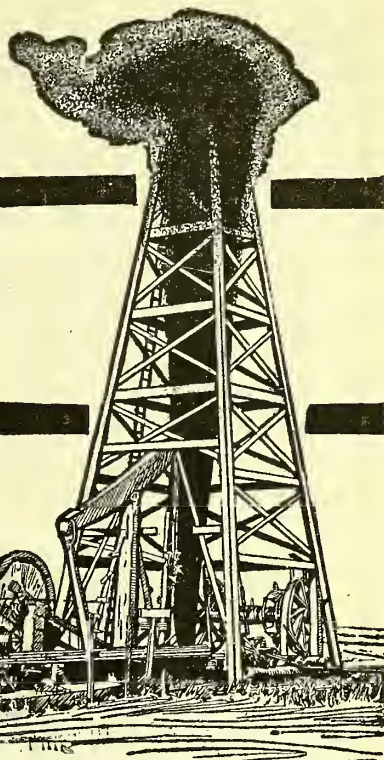
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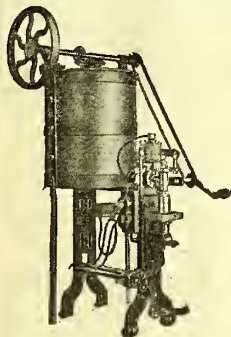
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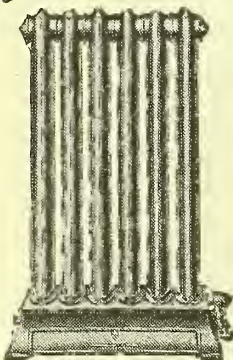
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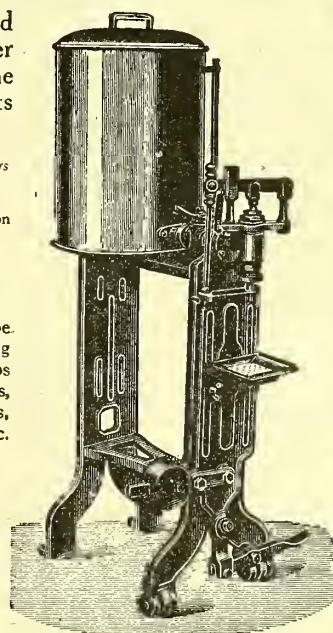
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42 CANNON ST.
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DECEMBER 28, 1929

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3.—LONDON, W.—General Retail and Dispensing Business, with small Optical connection; established many years; returns last year £3,600; £200 from Optical; corner shop, well fitted; living accommodation; held on lease; rent £60; price £2,800.

4.—LONDON, S.W.—Cash Retail Business; returns £1,200 per annum, with scope for increase under energetic management; net profit £324; attractive corner, lock-up shop; rent £52 per annum, inclusive; held on lease; price £700.

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3.—BRIXTON.—For immediate disposal, Light Retail Dispensing Business, with Kodak Agency and scope for Optics; situate in main road; lock-up shop; on lease, with nine years to run, at £80 per annum; beautifully fitted and good stock carried. Further particulars on application. (13)

4.—SUFFOLK.—Seaside resort. Old-established Family, Dispensing and Retail Business, on lease at £100 p.a.; good living accommodation; private entrance; £1,000 all at, or £350, plus stock and fixtures at valuation. (21)

5.—BLACKPOOL (North Shore).—Occupying commanding position in this popular seaside resort, there is for immediate disposal a Retail Dispensing and Photographic Business, with Kodak Agency; large D. & P. connection; 5 years' lease at £95 per annum; returns at present, which could be considerably increased, £1,200; net profit £420; price for quick sale £250, plus stock and fixtures at valuation. (20)

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BRADFORD (near centre, on main road).—Old-established Drug Stores, with full Wine Licence; plenty of scope for N.H.I.; house attached; low rent. Particulars, 223/7, Office of this Paper.

YORKSHIRE (small country town, pleasantly situated).—Mixed Country Business; unopposed; average returns last 3 years £2,150; net profits £510, accountant's figures; scope for Optics; good house attached; replies please enclose banker's reference; price £900; freehold can be purchased if desired, or mortgage arranged. Address 225/5, Office of this Paper.

CHEMIST'S Business for Sale, Hyde Park, Doncaster; established many years; dwelling-house can be arranged; stock and fittings to be taken over at valuation. Apply R. Kinnear, Carbon Chambers, Hallgate, Doncaster.

HIGH-CLASS Business on important main road; attractive, modern, double-fronted shop; opened 5 months; stylishly fitted; great scope for live man; illness cause of sale; lock-up shop, £200 year (house £100); can be sub-let; only wants seeing; price £1,200 or offer; price of stock and fixtures for quick sale. "Chemist," 131 Sandgate Road, Folkestone.

VERY old-established Business in busy main road, Manchester; prominent corner position; well fitted and stocked; good steady trade; living accommodation; returns last year £2,800; Kodak, N.H.I.; terms, reasonable sum for goodwill and valuation stock and fixtures; one change only in 50 years. 206/23, Office of this Paper.

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With Large Connections throughout Scotland requires other Special Proprietary Lines for marketing amongst chemists and stores. Only those that are well established, or new lines which are to be advertised, would be considered. Write fully (in confidence), to 161/703, Office of this Paper.

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ASSISTANT, unqualified, either sex, experienced in Dispensing, Counter work and Window-dressing; live in or out. Write or call, 171 Holloway Road, N.

LADY, unqualified, wanted to manage a small branch. Applications not answered in four days respectfully declined. Apply, giving full particulars, to "Stanley," 63 Trinity Road, Southend-on-Sea.

PART-TIME Assistant, evenings principally, for Dispensing, London, N.W., 5 p.m. to 8 p.m. State salary expected. 227/12, Office of this Paper.

SMART Assistant, accustomed to Stocktaking; good address; good and quick handwriting essential. State wages required and when at liberty. Ernest J. George, 3 St. Paul's Close, Walsall.

WANTED, a fully qualified Manager to take charge of new department about to be opened; Optical qualification preferred. Applications, giving full particulars, age, experience, salary required and references, to the Secretary, Scunthorpe Co-operative Society, Ltd., High Street, Scunthorpe, not later than January 8, 1930.

WANTED, unqualified Assistant (male). Write, giving particulars, age, experience, salary expected, references, etc.; Counter work and Dispensing; outdoors; permanency to suitable applicant. 224/27, Office of this Paper.

WANTED, at once, experienced, qualified Manager; sound knowledge of the business. Write, stating full particulars as to experience, age and salary required and references, to the Secretary, Co-operative Society, Ltd., 123 East Street, Sittingbourne, Kent.

WHOLESALE.

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REPRESENTATIVES required, calling Chemists and Drug Stores, to carry as side line basic commodity that all Chemists must stock; 15% commission; no expenses or other incidentals allowed. Write (in confidence), giving full particulars of ground covered, 161/704, Office of this Paper.

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WEST AFRICA.—Required for West Africa, capable and ambitious Chemist, with Optical diploma preferred, but not essential; must be single; not over 30 years of age; remunerative and progressive appointment offered to suitable applicant; first-class passage paid out and home; generous leave on full pay. Apply, with full particulars of experience, etc., to 161/698, Office of this Paper.

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A LOCUM; qualified; long experience in all branches; active; excellent references; disengaged now. "S. C. J.," 54 Priory Road, West Hampstead, N.W.6. Phone: Maida Vale 8212.

A QUALIFIED Scot, young, tall, good appearance, desires permanency; high-class Dispensing and Counter; Photography; disengaged; excellent references. 225/1, Office of this Paper.

A S Locum, Relief, Assistant; good experience heavy Panel, quick Counter, Prescriber; "not registered." "G.," 130 Scott-Ellis Gardens, N.W.8.

ASSISTANT; unqualified; all-round experience; permanency preferred; can manage. "Statim," 72 Tremadoc Road, Clapham, S.W.4.

ASSISTANT, 21, unqualified, requires temporary or permanent situation, commencing in the New Year; good Dispenser and all-round experience; conscientious worker and excellent references. H. Plummer, 20 Somerset Road, Walthamstow, E.17.

DISENGAGED.—Qualified; experienced all round; accustomed heavy Panel; good Dispenser; Locum, Manager, etc.; middle-aged; active; abstainer. "M.P.S.," c/o Messrs. Beck, Chemists, 60 High Street, Stoke Newington, N.

DISPENSER, etc. (male), desires post with Doctor; thoroughly experienced Panel and Private; tall, smart, active, and refined; age 40; at liberty now and free to go anywhere. "Dispenser," c/o Turrett House, Victoria Road, Edmonton, N.18.

LADY, disengaged, unqualified, desires berth; 12 years' all-round experience; London or Bradford. Holmes, 3 Elgin Avenue, London, W.9.

LADY, 34 (Apothecaries' Hall Certificate), seeks Assistantship in small, good-class Chemist's business, London area, with possibility of purchasing interest later. 220/12, Office of this Paper.

M.P.S., F.S.M.C., J.C.Q.O., 25, requires position with Chemist and Optician, in or about London, after Christmas; experienced in both Pharmacy and Optics; excellent references; interview at any time. K. E. Robinson, 157 Sutherland Avenue, Maida Vale, W.9.

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QUALIFIED, experienced Manager seeks situation; middle age; physically fit; competent Dispenser; moderate salary; London area preferred; free January; further particulars on application. "Chemist," 119 E. Dulwich Grove, S.E.27.

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UNQUALIFIED, 22, seeks situation immediately, anywhere; 6 years' experience, Dispensing, Salesmanship, Window-dressing and Photographic; excellent references. Apply "Rex," 414 Bury New Road, Higher Broughton, Manchester.

UNQUALIFIED, 25, tall and good appearance, desires permanency; Dispensing, Counter, Photographic; 7 years' experience, including London; disengaged. N. L. Jeeves, 58 Fawnbrake Avenue, Herne Hill, S.E.24.

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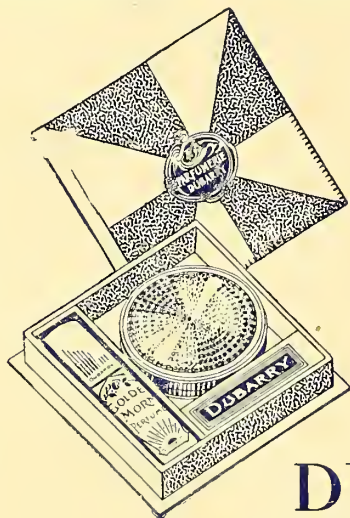
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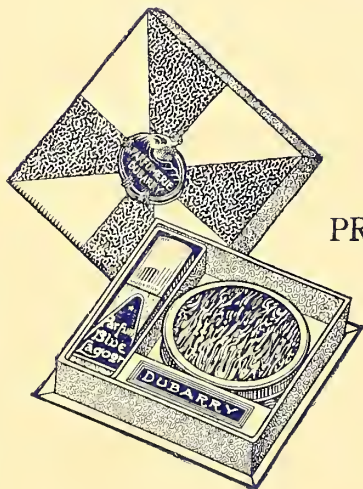


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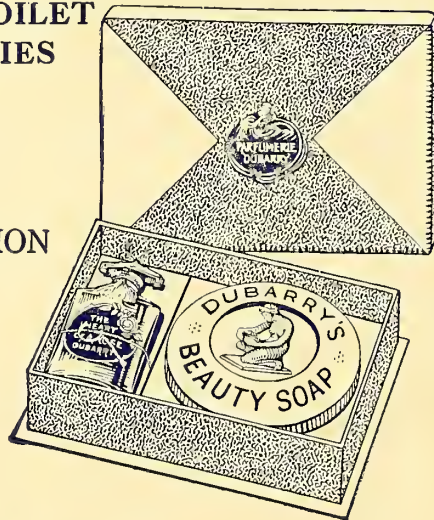


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